

FCC Radio Test Report

FCC ID: ACJ-SL-G700M2

This report concerns: Original Grant

Project No.	:	2207C092
Equipment	:	NETWORK / SUPER AUDIO CD PLAYER
Brand Name	:	Technics
Test Model	:	SL-G700M2
Series Model	:	N/A
Applicant	:	Panasonic Corporation of North America
Address	:	Two Riverfront Plaza, 9th Floor Newark, New Jersey 07102-5490 United States
Manufacturer	:	Panasonic Corporation of North America
Address	:	Two Riverfront Plaza, 9th Floor Newark, New Jersey 07102-5490 United States
Factory	:	Panasonic AVC Networks Johor Malaysia
Address	:	IE,PLO 460, Jalan Bandar, 81700 Pasir Gudang, Johor, Malaysia
Date of Receipt	:	Jul. 29, 2022
Date of Test	:	Aug. 02, 2022 ~ Sep. 09, 2022
Issued Date	:	Sep. 20, 2022
Report Version	:	R00
Test Sample	:	Engineering Sample No.: DG2022080148
Standard(s)	:	FCC CFR Title 47, Part 15, Subpart E FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 FCC KDB 662911 D01 Multiple Transmitter Output v02r01 ANSI C63.10-2013

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

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The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective. Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.



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REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-4-2207C092	R00	Original Report.	Sep. 20, 2022	Valid

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC CFR Title 47, Part 15, Subpart E					
Standard(s) Section	Test Item	Test Result	Judgment	Remark	
15.207 15.407(b)	AC Power Line Conducted Emissions	APPENDIX A	PASS		
15.407(b) 15.205(a) 15.209(a)	Radiated Emissions	APPENDIX B APPENDIX C APPENDIX D	PASS		
15.407(a) 15.407(e)	Bandwidth	APPENDIX E	PASS		
15.407(a)	Maximum Output Power	APPENDIX F	PASS		
15.407(a)	Power Spectral Density	APPENDIX G	PASS		
15.407(g)	Frequency Stability	APPENDIX H	PASS		
15.203	Antenna Requirements		PASS	NOTE (2)	
15.407(c)	Automatically Discontinue Transmission		PASS	NOTE (3)	

Note:

- (1) "N/A" denotes test is not applicable in this test report.
- (2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.
- (3) During no any information transmission, the EUT can automatically discontinue transmission and become standby mode for power saving. the EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.
- (4) For UNII-1 this device was functioned as a
 - Outdoor access point device
 - ☐ Indoor access point device
 - ☐ Fixed point-to-point access points device
 - Client device



1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 3 Jinshagang 1st Rd. Shixia, Dalang Town Dongguan City, Guangdong 523792 People's Republic of China. BTL's Registration Number for FCC: 357015 BTL's Designation Number for FCC: CN1240

1.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)) The BTL measurement uncertainty as below table:

A. AC power line conducted emissions test:

Test Site	Method	Measurement Frequency Range	U,(dB)
DG-C02	CISPR	150kHz ~ 30MHz	2.60

B. Radiated emissions test:

Test Site Method		Measurement Frequency Range	U,(dB)
DG-CB01	CISPR	9kHz ~ 30MHz	2.36

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)
DG-CB03 (3m)		30MHz ~ 200MHz	V	4.36
	CISPR	30MHz ~ 200MHz	Н	3.32
	CIGEN	m) 200MHz ~ 1,000MHz		V
		200MHz ~ 1,000MHz	Н	3.96

Test Site	Method	Measurement Frequency Range	U,(dB)
DG-CB03 (3m)		1GHz ~ 6GHz	3.80
	CISPR	6GHz ~ 18GHz	4.82

Test Site	Method	Measurement Frequency Range	U,(dB)
DG-CB03 (1m)		18 ~ 26.5 GHz	3.62
	CISPR	26.5 ~ 40 GHz	4.00



C. Other Measurement test:

Test Item	Uncertainty
Bandwidth	±3.8 %
Maximum Output Power	±0.95 dB
Power Spectral Density	±0.86 dB
Frequency Stability	±0.16 dB
Temperature	±0.08 °C
Humidity	±1.5%

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
AC Power Line Conducted Emissions	25°C	55%	AC 120V/60Hz	Farun Liang
Radiated Emissions-9kHz to 30MHz	25°C	55%	AC 120V/60Hz	Bob Cao
Radiated Emissions-30MHz to 1000MHz	23°C	53%	AC 120V/60Hz	Berton Luo
Radiated Emissions-Above 1000 MHz	22°C	58%	AC 120V/60Hz	Berton Luo
Bandwidth	23-24°C	58-61%	AC 120V/60Hz	Ansel Yang Complex Qin
Maximum Output Power	24°C	70%	AC 120V/60Hz	Complex Qin
Power Spectral Density	23-24°C	58-61%	AC 120V/60Hz	Ansel Yang Complex Qin
Frequency Stability	Normal & Extreme	58-61%	Normal & Extreme	Ansel Yang Complex Qin



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	NETWORK / SUPER AUDIO CD PLAYER
Brand Name	Technics
Test Model	SL-G700M2
Series Model	N/A
Model Difference(s)	N/A
Power Source	AC Mains.
Power Rating	120V~ 45W 60Hz
Operation Frequency Band(s)	UNII-1: 5150 MHz ~ 5250 MHz UNII-2A: 5250 MHz ~ 5350 MHz UNII-2C: 5470 MHz ~ 5725 MHz UNII-3: 5725 MHz ~ 5850 MHz
Modulation Type	IEEE 802.11a/n/ac: OFDM
Bit Rate of Transmitter	IEEE 802.11a: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 300 Mbps IEEE 802.11ac: up to 866.7 Mbps
Maximum Output Power_UNII-1	IEEE 802.11ac(VHT20): 17.04 dBm (0.0506 W)
Maximum Output Power_UNII-2A	IEEE 802.11ac(VHT40): 17.23 dBm (0.0528 W)
Maximum Output Power_UNII-2C	IEEE 802.11ac(VHT40): 17.20 dBm (0.0525 W)
Maximum Output Power_UNII-3	IEEE 802.11ac(VHT40): 16.85 dBm (0.0484 W)

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.



2. Channel List:

IEEE 80 IEEE 802.1 IEEE 802.11	1n(HT20)	IEEE 802. IEEE 802.1	11n(HT40) 1ac(VHT40)	IEEE 802.1 ²	1ac(VHT80)
UNI	I-1	UNII-1		UN	II-1
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230		
44	5220				
48	5240				

IEEE 802.11a IEEE 802.11n(HT20) IEEE 802.11ac(VHT20)		IEEE 802.11n(HT40) IEEE 802.11ac(VHT40)		IEEE 802.1	1ac(VHT80)
UNII	-2A	UNI	I-2A	UNI	I-2A
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	54	5270	58	5290
56	5280	62	5310		
60	5300				
64	5320				

IEEE 802.11a IEEE 802.11n(HT20) IEEE 802.11ac(VHT20)		IEEE 802.11n(HT40) IEEE 802.11ac(VHT40)		IEEE 802.11ac(VHT80)	
UNI	-2C	UNI	I-2C	UNI	I-2C
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		
112	5560	126	5630		
116	5580	134	5670		
120	5600				
124	5620				
128	5640				
132	5660				
136	5680				
140	5700				

IEEE 802.1	IEEE 802.11a IEEE 802.11n(HT20) IEEE 802.11ac(VHT20)		IEEE 802.11n(HT40) IEEE 802.11ac(VHT40)		1ac(VHT80)
UNI	I-3	UNII-3		UN	II-3
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755	155	5775
153	5765	159	5795		
157	5785				
161	5805				
165	5825				

3. Antenna Specification:

Ant.	Manufacturer	P/N	Antenna Type	Connector	Gain (dBi)
1	Panasonic Corporation	TNPA7779-1	Dipole	N/A	2.8
2	Panasonic Corporation	TNPA7780-1	Dipole	N/A	2.8

Note:

1) This EUT supports MIMO 2X2, any transmit signals are correlated with each other, so Directional gain=G_{ANT}+10log(N)dBi, that is Directional gain=2.8+10log(2)dBi=5.81.
2) The antenna gain is provided by the manufacturer.

4. Table for Antenna Configuration:

Operating Mode	TX Mode	1TX	2ТХ
IEEE 802.11a		V (Ant. 1)	-
IEEE 802.11n(HT20)		-	V (Ant. 1 + Ant. 2)
IEEE 802.11n(HT40)		-	V (Ant. 1 + Ant. 2)
IEEE 802.11ac(VHT20)		-	V (Ant. 1 + Ant. 2)
IEEE 802.11ac(VHT40)		-	V (Ant. 1 + Ant. 2)
IEEE 802.11ac(VHT80)		-	V (Ant. 1 + Ant. 2)

2.2 TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

Pretest Mode	Description
Mode 1	TX A Mode Channel 36/40/48 (UNII-1)
Mode 2	TX N(HT20) Mode Channel 36/40/48 (UNII-1)
Mode 3	TX N(HT40) Mode Channel 38/46 (UNII-1)
Mode 4	TX AC(VHT20) Mode Channel 36/40/48 (UNII-1)
Mode 5	TX AC(VHT40) Mode Channel 38/46 (UNII-1)
Mode 6	TX AC(VHT80) Mode Channel 42 (UNII-1)
Mode 7	TX A Mode Channel 52/60/64 (UNII-2A)
Mode 8	TX N(HT20) Mode Channel 52/60/64 (UNII-2A)
Mode 9	TX N(HT40) Mode Channel 54/62 (UNII-2A)
Mode 10	TX AC(VHT20) Mode Channel 52/60/64 (UNII-2A)
Mode 11	TX AC(VHT40) Mode Channel 54/62 (UNII-2A)
Mode 12	TX AC(VHT80) Mode Channel 58 (UNII-2A)
Mode 13	TX A Mode Channel 100/116/140 (UNII-2C)
Mode 14	TX N(HT20) Mode Channel 100/116/140 (UNII-2C)
Mode 15	TX N(HT40) Mode Channel 102/110/134 (UNII-2C)
Mode 16	TX AC(VHT20) Mode Channel 100/116/140 (UNII-2C)
Mode 17	TX AC(VHT40) Mode Channel 102/110/134 (UNII-2C)
Mode 18	TX AC(VHT80) Mode Channel 106/122 (UNII-2C)
Mode 19	TX A Mode Channel 149/157/165 (UNII-3)
Mode 20	TX N(HT20) Mode Channel 149/157/165 (UNII-3)
Mode 21	TX N(HT40) Mode Channel 151/159 (UNII-3)
Mode 22	TX AC(VHT20) Mode Channel 149/157/165 (UNII-3)
Mode 23	TX AC(VHT40) Mode Channel 151/159 (UNII-3)
Mode 24	TX AC(VHT80) Mode Channel 155 (UNII-3)
Mode 25	TX AC(VHT40) Mode Channel 54 (UNII-2A)

Following mode(s) was (were) found to be the worst case(s) and selected for the final test.

AC power line conducted emissions test		
Description		
TX AC(VHT40) Mode Channel 54 (UNII-2A)		
Radiated Emissions Test - Below 1GHz		
Description		
TX AC(VHT40) Mode Channel 54 (UNII-2A)		



	Radiated Emissions Test - Above 1GHz		
Final Test Mode	Description		
Mode 1	TX A Mode Channel 36/40/48 (UNII-1)		
Mode 4	TX AC(VHT20) Mode Channel 36/40/48 (UNII-1)		
Mode 5	TX AC(VHT40) Mode Channel 38/46 (UNII-1)		
Mode 6	TX AC(VHT80) Mode Channel 42 (UNII-1)		
Mode 7	TX A Mode Channel 52/60/64 (UNII-2A)		
Mode 10	TX AC(VHT20) Mode Channel 52/60/64 (UNII-2A)		
Mode 11	TX AC(VHT40) Mode Channel 54/62 (UNII-2A)		
Mode 12	TX AC(VHT80) Mode Channel 58 (UNII-2A)		
Mode 13	TX A Mode Channel 100/116/140 (UNII-2C)		
Mode 16	TX AC(VHT20) Mode Channel 100/116/140 (UNII-2C)		
Mode 17	TX AC(VHT40) Mode Channel 102/110/134 (UNII-2C)		
Mode 18	TX AC(VHT80) Mode Channel 106/122 (UNII-2C)		
Mode 19	TX A Mode Channel 149/157/165 (UNII-3)		
Mode 22	TX AC(VHT20) Mode Channel 149/157/165 (UNII-3)		
Mode 23	TX AC(VHT40) Mode Channel 151/159 (UNII-3)		
Mode 24	TX AC(VHT80) Mode Channel 155 (UNII-3)		

Maximum Output Power Test		
Final Test Mode	Description	
Mode 1	TX A Mode Channel 36/40/48 (UNII-1)	
Mode 2	TX N(HT20) Mode Channel 36/40/48 (UNII-1)	
Mode 3	TX N(HT40) Mode Channel 38/46 (UNII-1)	
Mode 4	TX AC(VHT20) Mode Channel 36/40/48 (UNII-1)	
Mode 5	TX AC(VHT40) Mode Channel 38/46 (UNII-1)	
Mode 6	TX AC(VHT80) Mode Channel 42 (UNII-1)	
Mode 7	TX A Mode Channel 52/60/64 (UNII-2A)	
Mode 8	TX N(HT20) Mode Channel 52/60/64 (UNII-2A)	
Mode 9	TX N(HT40) Mode Channel 54/62 (UNII-2A)	
Mode 10	TX AC(VHT20) Mode Channel 52/60/64 (UNII-2A)	
Mode 11	TX AC(VHT40) Mode Channel 54/62 (UNII-2A)	
Mode 12	TX AC(VHT80) Mode Channel 58 (UNII-2A)	
Mode 13	TX A Mode Channel 100/116/140 (UNII-2C)	
Mode 14	TX N(HT20) Mode Channel 100/116/140 (UNII-2C)	
Mode 15	TX N(HT40) Mode Channel 102/110/134 (UNII-2C)	
Mode 16	TX AC(VHT20) Mode Channel 100/116/140 (UNII-2C)	
Mode 17	TX AC(VHT40) Mode Channel 102/110/134 (UNII-2C)	
Mode 18	TX AC(VHT80) Mode Channel 106/122 (UNII-2C)	



	Maximum Output Power Test		
Final Test Mode	Description		
Mode 19	TX A Mode Channel 149/157/165 (UNII-3)		
Mode 20	TX N(HT20) Mode Channel 149/157/165 (UNII-3)		
Mode 21	TX N(HT40) Mode Channel 151/159 (UNII-3)		
Mode 22	TX AC(VHT20) Mode Channel 149/157/165 (UNII-3)		
Mode 23	TX AC(VHT40) Mode Channel 151/159 (UNII-3)		
Mode 24	TX AC(VHT80) Mode Channel 155 (UNII-3)		

Other Conducted Test		
Final Test Mode	Description	
Mode 1	TX A Mode Channel 36/40/48 (UNII-1)	
Mode 4	TX AC(VHT20) Mode Channel 36/40/48 (UNII-1)	
Mode 5	TX AC(VHT40) Mode Channel 38/46 (UNII-1)	
Mode 6	TX AC(VHT80) Mode Channel 42 (UNII-1)	
Mode 7	TX A Mode Channel 52/60/64 (UNII-2A)	
Mode 10	TX AC(VHT20) Mode Channel 52/60/64 (UNII-2A)	
Mode 11	TX AC(VHT40) Mode Channel 54/62 (UNII-2A)	
Mode 12	TX AC(VHT80) Mode Channel 58 (UNII-2A)	
Mode 13	TX A Mode Channel 100/116/140 (UNII-2C)	
Mode 16	TX AC(VHT20) Mode Channel 100/116/140 (UNII-2C)	
Mode 17	TX AC(VHT40) Mode Channel 102/110/134 (UNII-2C)	
Mode 18	TX AC(VHT80) Mode Channel 106/122 (UNII-2C)	
Mode 19	TX A Mode Channel 149/157/165 (UNII-3)	
Mode 22	TX AC(VHT20) Mode Channel 149/157/165 (UNII-3)	
Mode 23	TX AC(VHT40) Mode Channel 151/159 (UNII-3)	
Mode 24	TX AC(VHT80) Mode Channel 155 (UNII-3)	

Note:

- (1) For AC power line conducted emissions and radiated emission below 1 GHz test, the TX AC(VHT40) Mode Channel 54 (UNII-2A) is found to be the worst case and recorded.
- (2) For radiated emission above 1 GHz test, the spurious points of 1GHz~26.5GHz and 26.5GHz~40GHz have been pre-tested and in this report only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.
- (3) All the bit rate of transmitter have been tested and found the lowest rate is found to be the worst case and recorded.
- (4) The measurements for Output Power are tested, the worst cases are IEEE 802.11a mode, IEEE 802.11ac(VHT20) mode, IEEE 802.11ac(VHT40) mode and IEEE 802.11ac(VHT80) mode, only the worst cases are documented for other test items.
- (5) For radiated emission above 1 GHz test: The polarization of vertical and horizontal are evaluated, the worst case is vertical and recorded.

2.3 PARAMETERS OF TEST SOFTWARE

UNII-1			
Test Software Version	DutA	piMimoBtFmBrdigeEth 2.0).0.87
Frequency (MHz)	5180	5200	5240
IEEE 802.11a	17	17	17
IEEE 802.11n(HT20)	17	17	17
IEEE 802.11ac(VHT20)	16	16	17
Frequency (MHz)	5190	5230	
IEEE 802.11n(HT40)	12	19	
IEEE 802.11ac(VHT40)	14	17	
Frequency (MHz)	5210		
IEEE 802.11ac(VHT80)	8		

UNII-2A			
Test Software Version	DutA	ApiMimoBtFmBrdigeEth 2.0	0.0.87
Frequency (MHz)	5260	5300	5320
IEEE 802.11a	17	16	17
IEEE 802.11n(HT20)	17	17	15
IEEE 802.11ac(VHT20)	17	17	15
Frequency (MHz)	5270	5310	
IEEE 802.11n(HT40)	20	17	
IEEE 802.11ac(VHT40)	17	14	
Frequency (MHz)	5290		
IEEE 802.11ac(VHT80)	8		

UNII-2C			
Test Software Version	DutA	piMimoBtFmBrdigeEth 2.0	0.0.87
Frequency (MHz)	5500	5580	5700
IEEE 802.11a	16	16	16
IEEE 802.11n(HT20)	17	16	16
IEEE 802.11ac(VHT20)	17	16	16
Frequency (MHz)	5510	5550	5670
IEEE 802.11n(HT40)	17	20	20
IEEE 802.11ac(VHT40)	14	17	16
Frequency (MHz)	5530	5610	
IEEE 802.11ac(VHT80)	8	8	

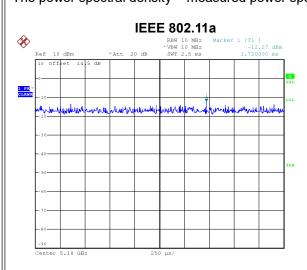


	UNII	-3	
Test Software Version	DutA	ApiMimoBtFmBrdigeEth 2.0	.0.87
Frequency (MHz)	5745	5785	5825
IEEE 802.11a	16	16	16
IEEE 802.11n(HT20)	16	16	16
IEEE 802.11ac(VHT20)	16	16	16
Frequency (MHz)	5755	5795	
IEEE 802.11n(HT40)	20	20	
IEEE 802.11ac(VHT40)	17	16	
Frequency (MHz)	5775		
IEEE 802.11ac(VHT80)	8		



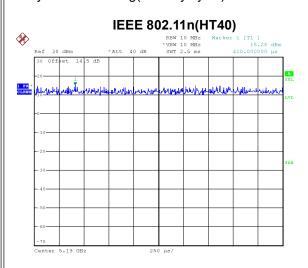
2.4 DUTY CYCLE

If duty cycle is \geq 98 %, duty factor is not required. If duty cycle is < 98 %, duty factor shall be considered. The output power = measured power + duty factor. The power spectral density = measured power spectral density + duty factor.



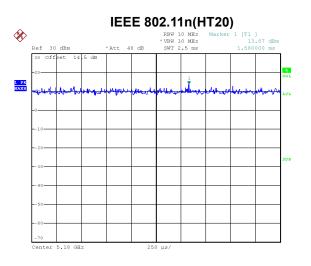
Date: 22.AUG.2022 08:03:50

Duty cycle = 2.500 ms / 2.500 ms = 100% Duty Factor = 10 log(1 / Duty cycle) = 0.00



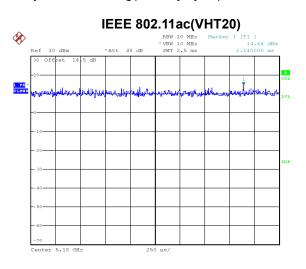
Date: 24.AUG.2022 20:39:11

Duty cycle = 2.500 ms / 2.500 ms = 100% Duty Factor = 10 log(1 / Duty cycle) = 0.00



Date: 24.AUG.2022 20:37:23

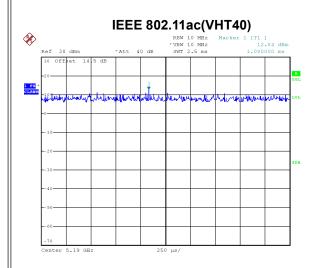
Duty cycle = 2.500 ms / 2.500 ms = 100% Duty Factor = 10 log(1 / Duty cycle) = 0.00

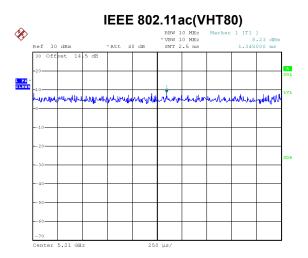


Date: 24.AUG.2022 20:38:13

Duty cycle = 2.500 ms / 2.500 ms = 100% Duty Factor = 10 log(1 / Duty cycle) = 0.00

3**โ**L





Date: 24.AUG.2022 20:39:35

Duty cycle = 2.500 ms / 2.500 ms = 100% Duty Factor = 10 log(1 / Duty cycle) = 0.00 Date: 24.AUG.2022 20:39:58

Duty cycle = 2.500 ms / 2.500 ms = 100% Duty Factor = 10 log(1 / Duty cycle) = 0.00

NOTE:

For IEEE 802.11a:

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1 kHz (Duty cycle \ge 98%).

For IEEE 802.11n(HT20):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1 kHz (Duty cycle \ge 98%).

For IEEE 802.11n(HT40):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 2 kHz (Duty cycle \ge 98%).

For IEEE 802.11ac(VHT20):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1 kHz (Duty cycle \geq 98%).

For IEEE 802.11ac(VHT40):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 2 kHz (Duty cycle \ge 98%).

For IEEE 802.11ac(VHT80):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 kHz (Duty cycle \geq 98%).



2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.6 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.
-	-	-	-	-

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	AC Cable	NO	NO	1.8m



3. AC POWER LINE CONDUCTED EMISSIONS

3.1 LIMIT

Frequency	Limit (dBµV)	
(MHz)	Quasi-peak	Average
0.15 - 0.5	66 to 56*	56 to 46*
0.5 - 5.0	56	46
5.0 - 30.0	60	50

NOTE:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

3.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

The following table is the setting of the receiver:

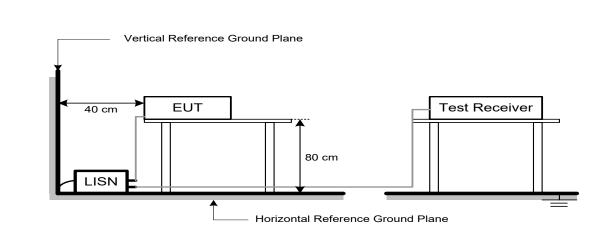
Receiver Parameter	Setting
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.3 DEVIATION FROM TEST STANDARD

No deviation



3.4 TEST SETUP



3.5 EUT OPERATION CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

The EUT was programmed to be in continuously transmitting/TX mode.

3.6 TEST RESULTS

Please refer to the APPENDIX A.



4. RADIATED EMISSIONS

4.1 LIMIT

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

LIMITS OF RADIATED EMISSIONS MEASUREMENT (9 kHz to 1000 MHz)

Frequency	Field Strength	Measurement Distance
(MHz)	(microvolts/meter)	(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS (Above 1000 MHz)

Frequency	EIRP Limit	Equivalent Field Strength at 3m
(MHz)	(dBm/MHz)	(dBµV/m)
5150-5250	-27	68.2
5250-5350	-27	68.2
5470-5725	-27	68.2
	-27	68.2
5725-5850	10	105.2
NOTE (2)	15.6	110.8
	27	122.2

NOTE:

(1) The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength: 1000000√30P E

$$=$$
 $\mu V/m$, where P is the eirp (Watts)

(2) According to 15.407(b)(4)(i), all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.



4.2 TEST PROCEDURE

- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1 GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1 GHz)
- i. For the actual test configuration, please refer to the related Item –EUT Test Photos.

The following table is the setting of the receiver:

Spectrum Parameters	Setting
Start ~ Stop Frequency	9 kHz~150 kHz for RBW 200 Hz
Start ~ Stop Frequency	0.15 MHz~30 MHz for RBW 9 kHz
Start ~ Stop Frequency	30 MHz~1000 MHz for RBW 100 kHz

Spectrum Parameters	Setting
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic or 40 GHz, whichever is lower
RBW / VBW	1 MHz / 3 MHz for PK value
(Emission in restricted band)	1 MHz / 1/T Hz for AVG value

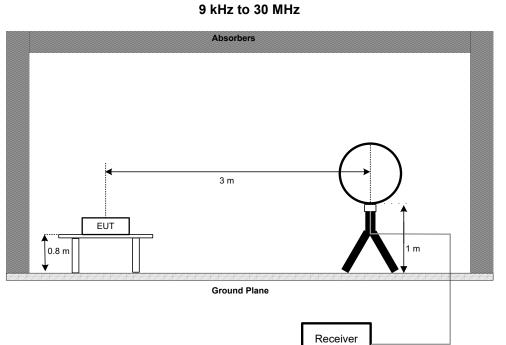
Receiver Parameters	Setting
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector
Start ~ Stop Frequency	1 GHz~40 GHz for PK/AVG detector



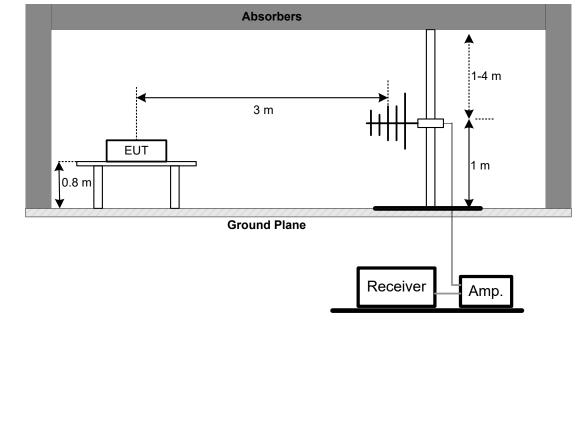
4.3 DEVIATION FROM TEST STANDARD

No deviation.

4.4 TEST SETUP

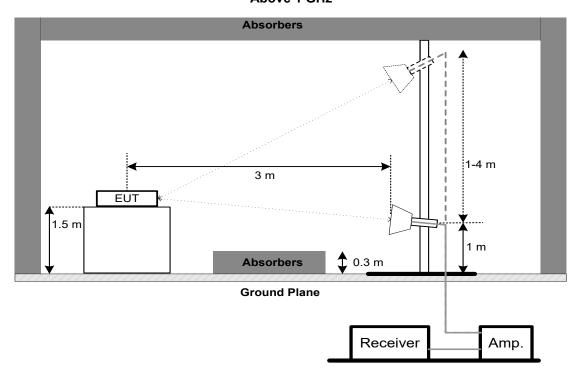


30 MHz to 1 GHz





Above 1 GHz



4.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 3.5 unless otherwise a special operating condition is specified in the follows during the testing.

4.6 TEST RESULTS - 9 KHZ TO 30 MHZ

Please refer to the APPENDIX B.

Remark:

- (1) Distance extrapolation factor = 40 log (specific distance / test distance) (dB).
- (2) Limit line = specific limits (dBuV) + distance extrapolation factor.

4.7 TEST RESULTS - 30 MHZ TO 1000 MHZ

Please refer to the APPENDIX C.

4.8 TEST RESULTS - ABOVE 1000 MHZ

Please refer to the APPENDIX D.

Remark:

(1) No limit: This is fundamental signal, the judgment is not applicable. For fundamental signal judgment was referred to Peak output test.



5. BANDWIDTH

5.1 LIMIT

Section	Test Item	Limit	Frequency Range (MHz)
	26 dB Bandwidth	-	5150-5250
FCC 15.407(a)	26 dB Bandwidth	-	5250-5350
FCC 15.407(e)	26 dB Bandwidth	-	5470-5725
	6 dB Bandwidth	Minimum 500 kHz	5725-5850

5.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below

b. Spectrum Setting:

For UNII-1, UNII-2A, UNII-2C:

Spectrum Parameter	Setting
Span Frequency	> 26 dB Bandwidth
RBW	Appromiximately 1% of the emission bandwidth
VBW	> RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

For UNII-3:

Spectrum Parameter	Setting
Span Frequency	> 6 dB Bandwidth
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

For 99% Occupied Bandwidth:

Spectrum Parameter	Setting
Span Frequency	1.5 times to 5 times the OBW
RBW	1% to 5% of the OBW
VBW	≥3*RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

c. Measured the spectrum width with power higher than 26 dB / 6 dB below carrier.

5.3 DEVIATION FROM STANDARD

No deviation.



5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULTS

Please refer to the APPENDIX E.



6. MAXIMUM OUTPUT POWER

6.1 LIMIT

Section	Test Item	Limit	Frequency Range (MHz)
FCC 15.407(a) Maximum Output Power	Client device: 250 mW (23.98 dBm)	5150-5250	
	Maximum Output Bower	250 mW (23.98 dBm)	5250-5350
		250 mW (23.98 dBm)	5470-5725
		1 Watt (30dBm)	5725-5850

Note:

- a. 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. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. 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.
- b. 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 dBm + 10log B, where B is the 26dB Bandwidth in megahertz.

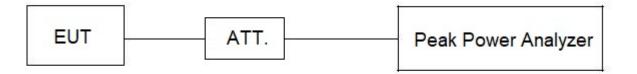
6.2 TEST PROCEDURE

- a. The EUT was directly connected to the peak power analyzer and antenna output port as show in the block diagram below.
- b. The test was performed in accordance with method of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULTS

Please refer to the APPENDIX F.



7. POWER SPECTRAL DENSITY

7.1 LIMIT

	Section	Test Item	Limit	Frequency Range (MHz)
Γ	FCC 15.407(a) Power Spectral Density	Client device: 11 dBm/MHz	5150-5250	
		11 dBm/MHz	5250-5350	
		Power Spectral Density	11 dBm/MHz	5470-5725
		30 dBm/500 kHz	5725-5850	

7.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting:
 - For UNII-1, UNII-2A, UNII-2C:

Spectrum Parameter	Setting
Span Fraguanay	Encompass the entire emissions bandwidth (EBW)
Span Frequency	of the signal
RBW	1 MHz.
VBW	3 MHz.
Detector	RMS
Trace average	100 trace
Sweep Time	Auto

For UNII-3:

Spectrum Parameter	Setting
Span Fraguenov	Encompass the entire emissions bandwidth (EBW)
Span Frequency	of the signal
RBW	100 kHz.
VBW	300 kHz.
Detector	RMS
Trace average	100 trace
Sweep Time	Auto

Note:

- For UNII-3, according to KDB publication 789033 D02 General UNII Test Procedures New Rules v02r01, section II.F.5., it is acceptable to set RBW at 100kHz and VBW at 300kHz if the spectrum analyzer does not have 500 kHz RBW. Then, add 10 log (500 kHz/100 kHz) to the measured result, i.e. 7 dB.
- During the test of U-NII 3 PSD, the measurement result with RBW=100kHz has been added 7 dB by compensating offset. For example, the cable loss is 14.5 dB, and the final offset is 14.5+7 = 21.5 dB when RBW=100kHz is used.

7.3 DEVIATION FROM STANDARD

No deviation.



7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.6 TEST RESULTS

Please refer to the APPENDIX G.



8. FREQUENCY STABILITY

8.1 LIMIT

Section	Test Item	Limit	Frequency Range (MHz)
FCC 15.407(g)	Frequency Stability	An emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.	5150-5250 5250-5350 5470-5725 5725-5850

8.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting:

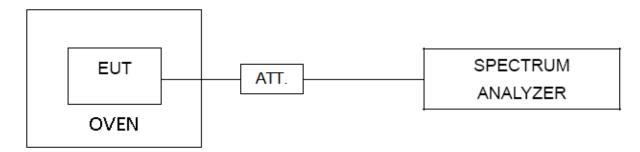
Spectrum Parameter	Setting
Span Frequency	Entire absence of modulation emissions bandwidth
RBW	10 kHz
VBW	30 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

- c. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.
- d. User manual temperature is 0°C~40°C.

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.6 TEST RESULTS

Please refer to the APPENDIX H.



9. MEASUREMENT INSTRUMENTS LIST

	AC Power Line Conducted Emissions								
Item	Kind of Equipment Manufacturer		Type No.	Serial No.	Calibrated until				
1	EMI Test Receiver	R&S	ESCI	100382	Jan. 22, 2023				
2	LISN	EMCO	3816/2	52765	Jan. 23, 2023				
3	TWO-LINE V-NETWORK	R&S	ENV216	101447	Jan. 23, 2023				
4	50Ω Terminator	SHX	TF5-3	15041304	Jan. 22, 2023				
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A				
6	Cable	N/A	RG223	12m	Mar. 08, 2023				
7	643 Shield Room	ETS	6*4*3	N/A	N/A				

	Radiated Emissions - 9 kHz to 30 MHz								
Item	Kind of Equipment Manufacturer		Type No.	Serial No.	Calibrated until				
1	MXE EMI Receiver	Keysight	N9038A	MY56400091	Jan. 22, 2023				
2*	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Aug. 23, 2024				
3	Cable	N/A	RG 213/U(9kHz~1GHz)	N/A	Jun. 17, 2023				
4	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A				
5	966 Chamber Room	ETS	9*6*6	N/A	Jul. 14, 2023				

	Radiated Emissions - 30 MHz to 1 GHz								
Item	Kind of Equipment	ind of Equipment Manufacturer		Serial No.	Calibrated until				
1	Antenna	Schwarzbeck	VULB9160	9160-3232	Mar. 03, 2023				
2	Amplifier	HP	8447D	2944A08742	Jan. 22, 2023				
3	Cable	emci	LMR-400	N/A	Nov. 30, 2022				
4	Controller	СТ	SC100	N/A	N/A				
5	Controller	MF	MF-7802	MF780208416	N/A				
6	Receiver	Agilent	N9038A	MY52130039	Jan. 22, 2023				
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A				
8	966 Chamber Room	RM	9*6*6	N/A	Jul. 15, 2023				



Radiated Emissions - Above 1 GHz								
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until			
1	Double Ridged Horn Antenna	ARA	DRG-118A	16554	Apr. 18, 2023			
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	May 27, 2023			
3	Amplifier	Agilent	8449B	3008A02584	Jul. 03, 2023			
4	Controller	СТ	SC100	N/A	N/A			
5	Controller	MF	MF-7802	MF780208416	N/A			
6	Receiver	Agilent	N9038A	MY52130039	Jan. 22, 2023			
7	EXA Spectrum Analyzer	Keysight	N9010A	MY56480488	Jan. 22, 2023			
8*	Low Noise Amplifier	CONNPHY	CLN-18G40G-4330 -K	619413	Jul. 05, 2025			
9	Cable	Talent microwave	A81-SMAMSMAM- 12.5M	N/A	Oct. 15, 2022			
10	Cable	Talent microwave	A40-2.92M2.92M-2. 5M	N/A	Nov. 30, 2022			
11*	Band Reject Filter	Micro-Tronics	BRC50704-01	8	Feb. 27, 2024			
12*	Band Reject Filter	Micro-Tronics	BRC50703-01	7	Feb. 27, 2024			
13*	Band Reject Filter	Micro-Tronics	BRC50705-01	10	Feb. 27, 2024			
14	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A			
15	966 Chamber Room	RM	9*6*6	N/A	Jul. 15, 2023			

	Bandwidth &								
	Power Spectral Density								
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until				
1	Spectrum Analyzer	R&S	FSP40	100185	Jul. 03, 2023				
2	Attenuator	WOKEN	6SM3502	VAS1214NL	N/A				
3	RF Cable	Tongkaichuan	N/A	N/A	N/A				
4	DC Block	Mini	N/A	N/A	N/A				

	Maximum Output Power								
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until				
1	Peak Power Analyzer	Keysight	8990B	MY51000506	Jul. 03, 2023				
2	Wideband power sensor	Keysight	N1923A	MY58310004	Jul. 03, 2023				
3	Attenuator	WOKEN	6SM3502	VAS1214NL	N/A				
4	RF Cable	Tongkaichuan	N/A	N/A	N/A				

	Frequency Stability								
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until				
1	Spectrum Analyzer	R&S	FSP40	100185	Jul. 03, 2023				
2	Precision Oven Tester	CEPREI	CEEC-M64T-40	15-008	Jan. 22, 2023				
3	Attenuator	WOKEN	6SM3502	VAS1214NL	N/A				
4	RF Cable	Tongkaichuan	N/A	N/A	N/A				
5	DC Block	Mini	N/A	N/A	N/A				

Remark: "N/A" denotes no model name, serial no. or calibration specified.

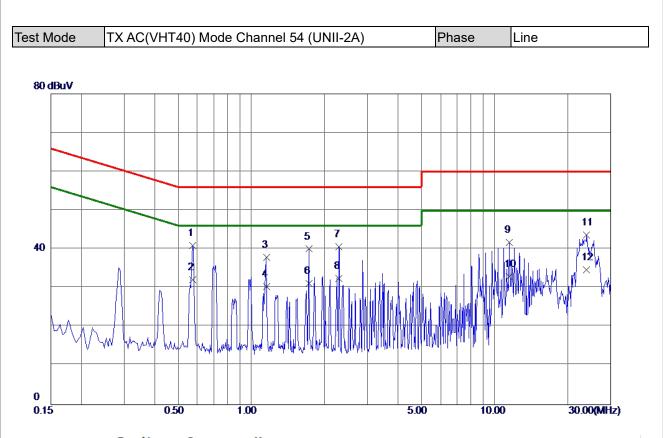
"*" calibration period of equipment list is three year.

Except * item, all calibration period of equipment list is one year.



APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS



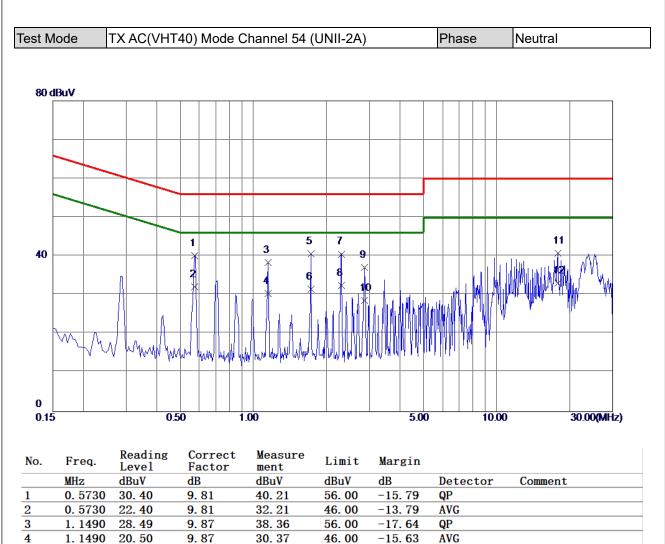


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.5730	31.20	9.78	40.98	56.00	-15. 0 2	QP	
2	0.5730	22. 40	9.78	32.18	46.00	-13.82	AVG	
3	1.1535	28.10	9.84	37.94	56.00	-18.06	QP	
4	1.1535	20. 50	9.84	30.34	46.00	-15.66	AVG	
5	1.7250	30.21	9.87	40.08	56.00	-15. 92	QP	
6	1.7250	21.39	9.87	31.26	46.00	-14. 74	AVG	
7	2.2965	30.76	9.91	40.67	56.00	-15.33	QP	
8 *	2.2965	22.61	9.91	32. 52	46.00	-13.48	AVG	
9	11. 4809	31.30	10. 52	41.82	60.00	-18. 18	QP	
10	11. 4809	22.39	10. 52	32. 91	50.00	-17.09	AVG	
11	23.8920	32.84	10.90	43.74	60.00	-16.26	QP	
12	23. 8920	23.80	10.90	34. 70	50.00	-15. 30	AVG	

REMARKS:

- Measurement Value = Reading Level + Correct Factor.
 Margin Level = Measurement Value Limit Value.
 The test result has included the cable loss.





56.00

46.00

56.00

46.00

56.00

46.00

60.00

50.00

-15.41

-14. 50

-15.44

-13. 55

-18.94

-17.41

-19.16

-16.86

QP

AVG

QP

AVG

AVG

QP

AVG

QP

REMARKS:

5

6

7

9

10

11

12

8 *

1. 7250

1.7250

2.3055

2.3055

2.8725

2.8725

17.8575 30.10

17.8575 22.40

30.69

21.60

30.62

22.51

27.07

18.60

9.90

9.90

9.94

9.94

9.99

9.99

10.74

10.74

40.59

31.50

40.56

32.45

37.06

28.59

40.84

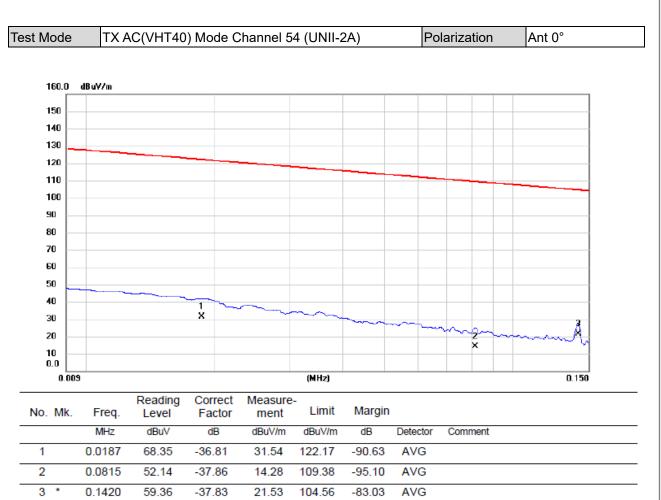
33.14

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) The test result has included the cable loss.



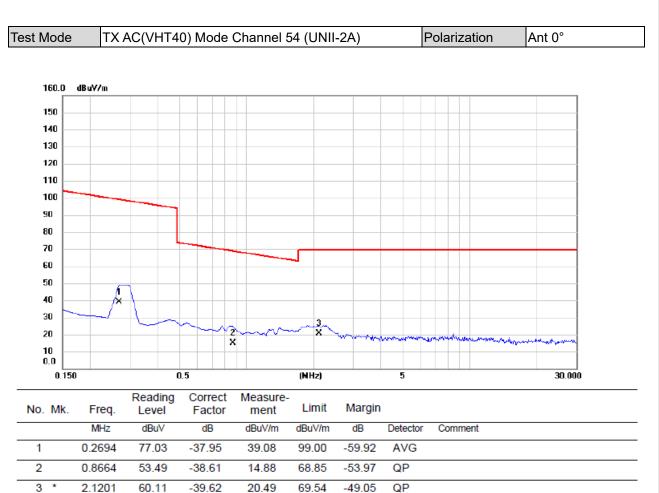
APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ





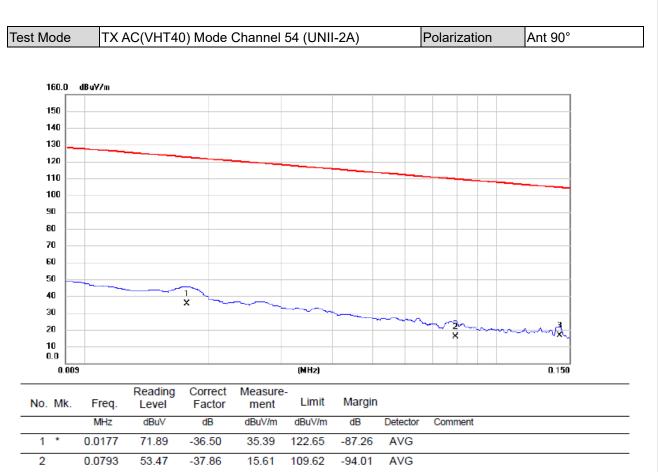
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





3

0.1421

(1) Measurement Value = Reading Level + Correct Factor.

-37.83

16.56

104.56

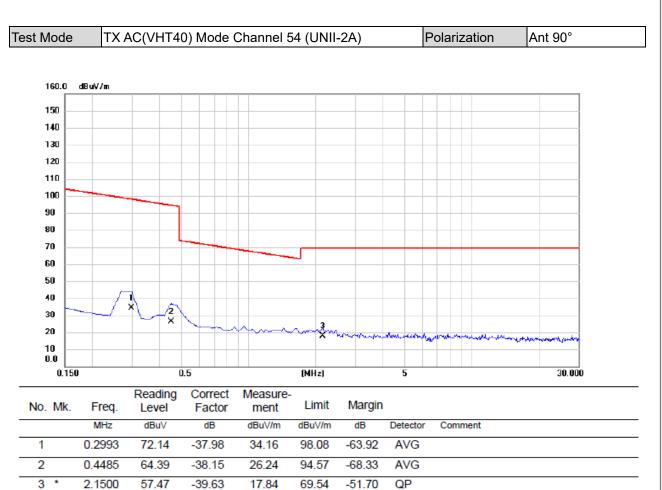
-88.00

AVG

(2) Margin Level = Measurement Value - Limit Value.

54.39



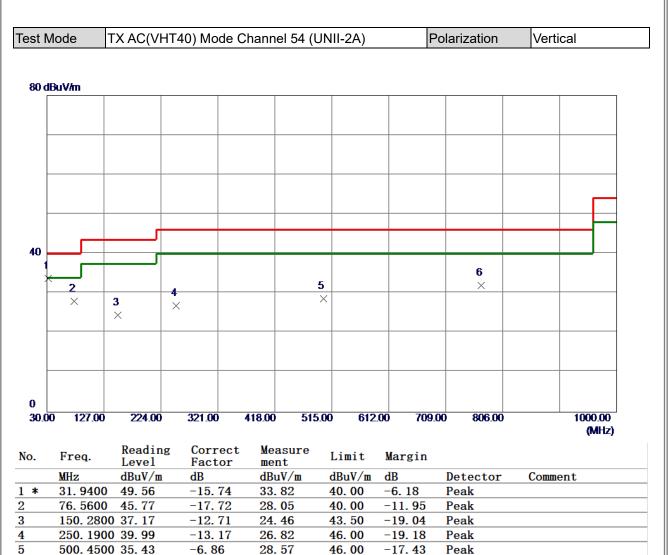


- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ





6

769.1400 33.67

(1) Measurement Value = Reading Level + Correct Factor.

-1.69

31.98

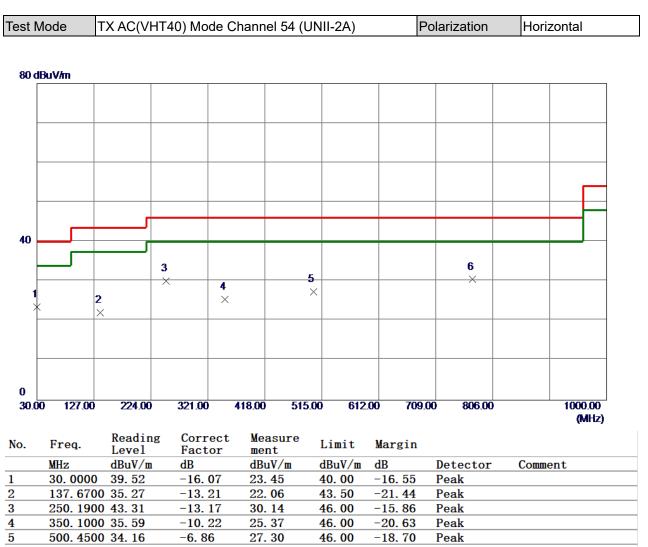
46.00

-14.02

Peak

(2) Margin Level = Measurement Value - Limit Value.





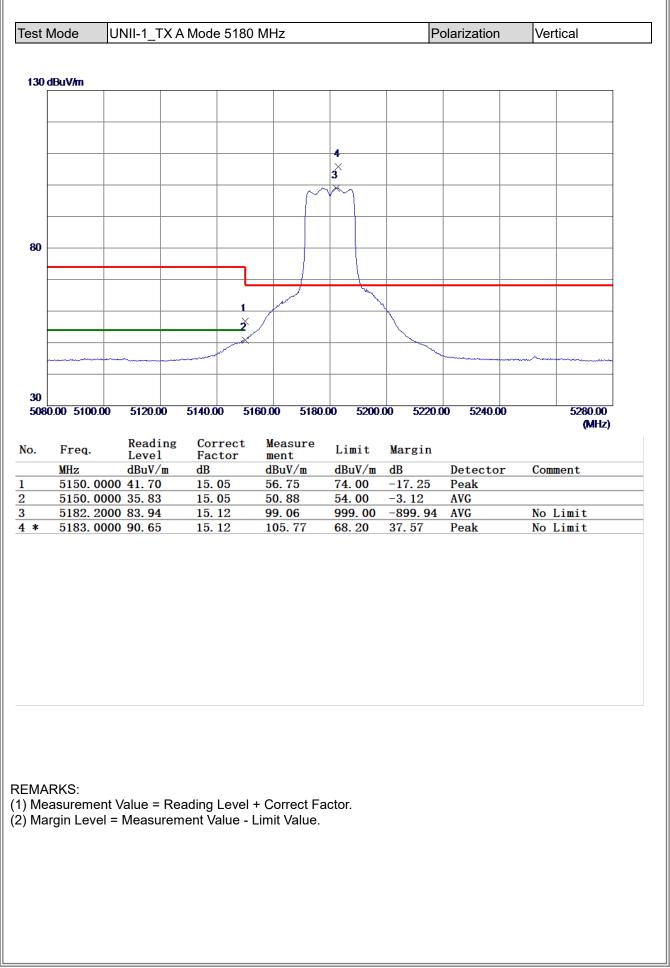
1	30.0000 39.02	-10.07	23.40	40.00	-10.00	геак	
2	137.6700 35.27	-13.21	22.06	43. 50	-21.44	Peak	
3	250. 1900 43. 31	-13.17	30.14	46.00	-15.86	Peak	
4	350. 1000 35. 59	-10.22	25.37	46.00	-20. 63	Peak	
5	500. 4500 34. 16	-6.86	27.30	46.00	-18.70	Peak	
6 *	771.0800 32.16	-1.68	30.48	46.00	-15. 52	Peak	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

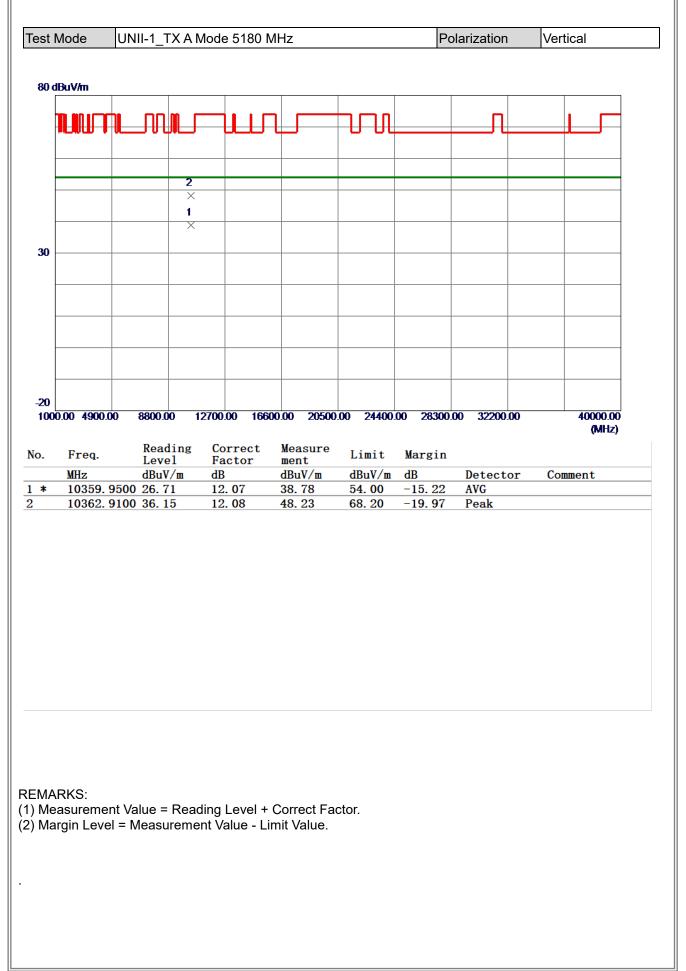


APPENDIX D - RADIATED EMISSION - ABOVE 1000 MHZ

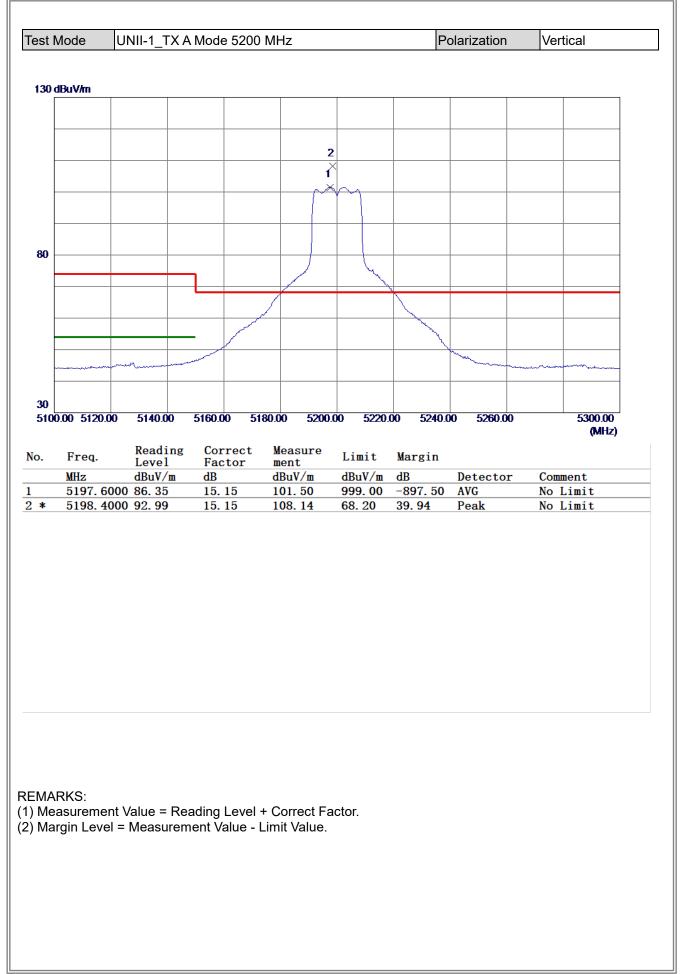
BIL



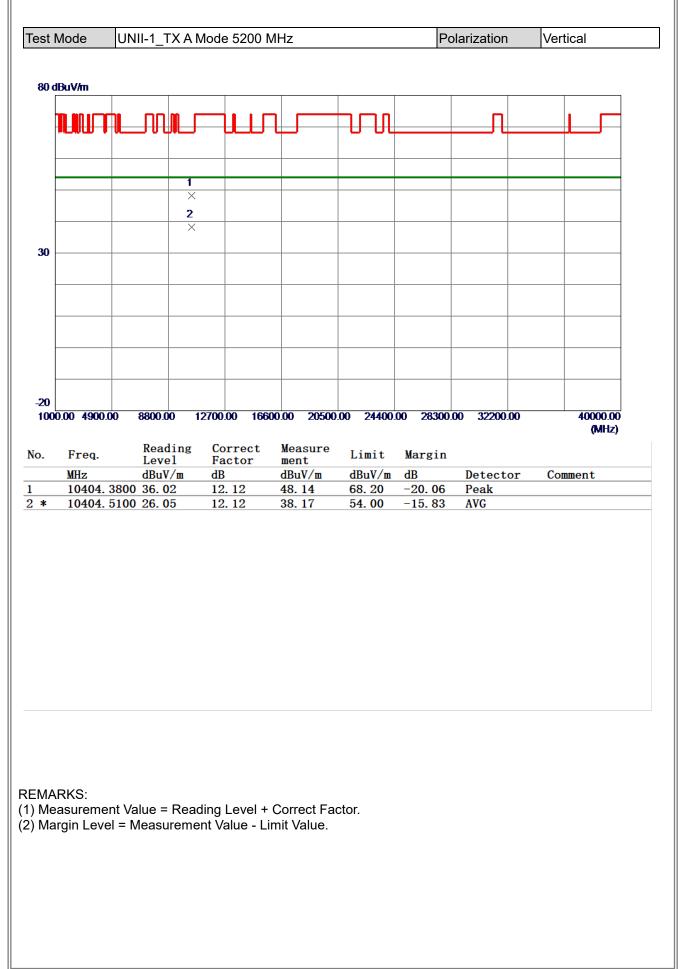




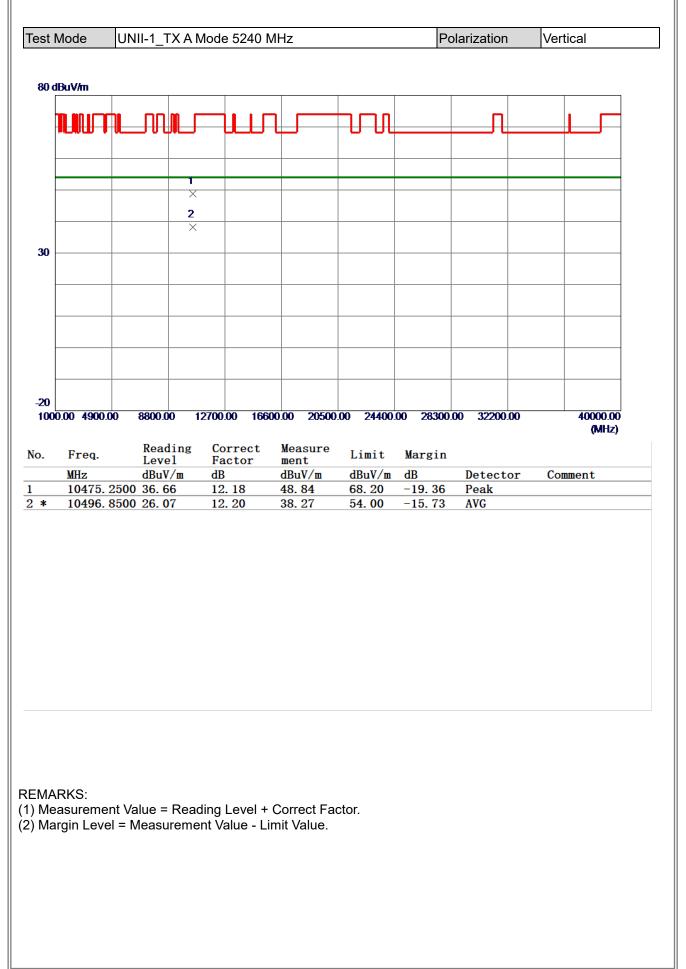
BL



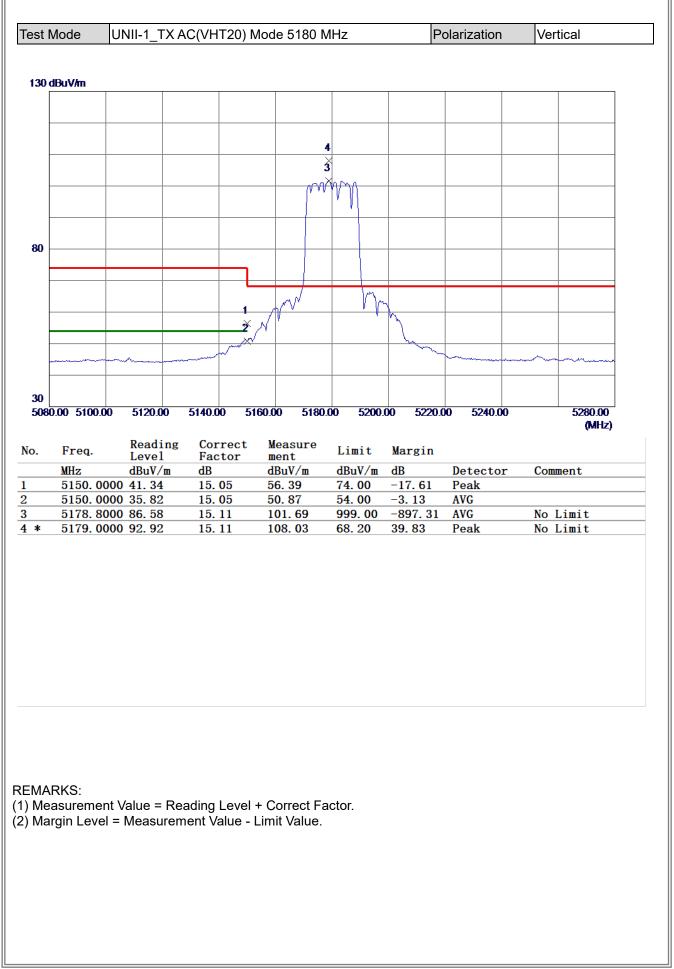




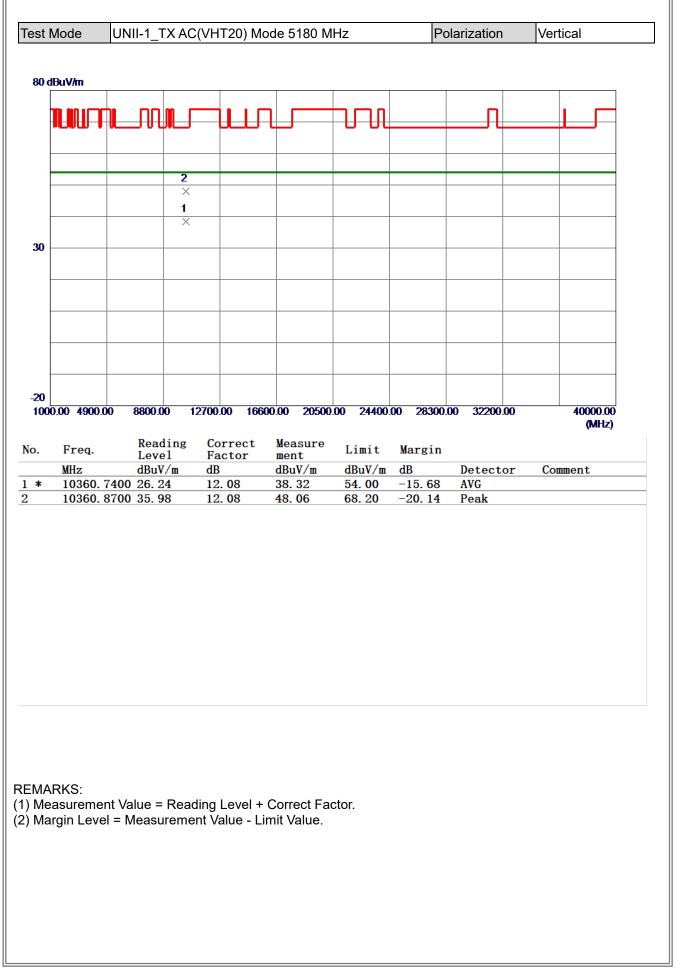




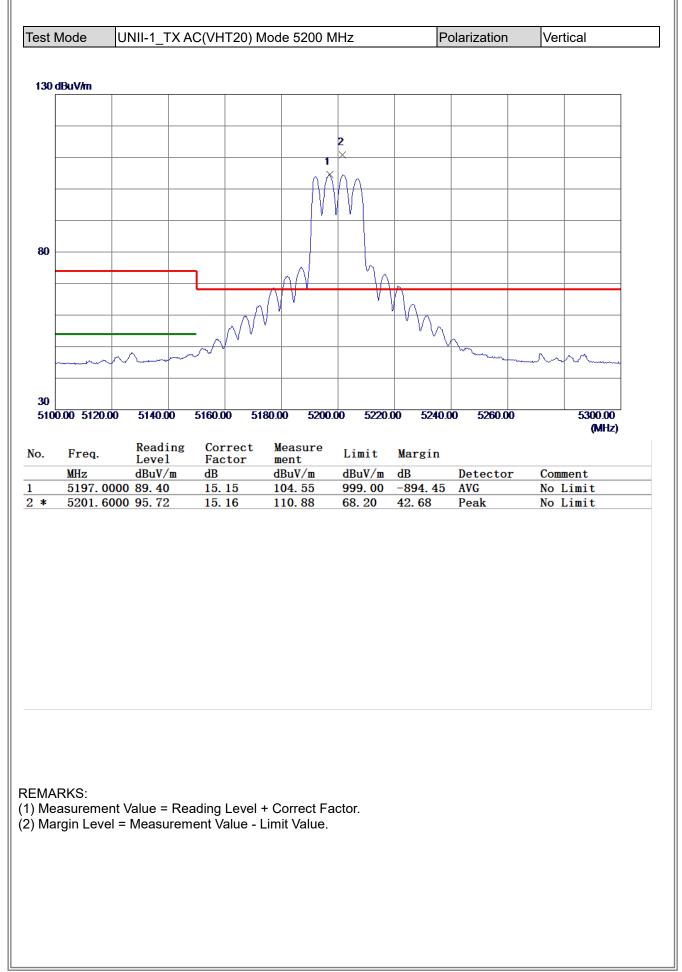




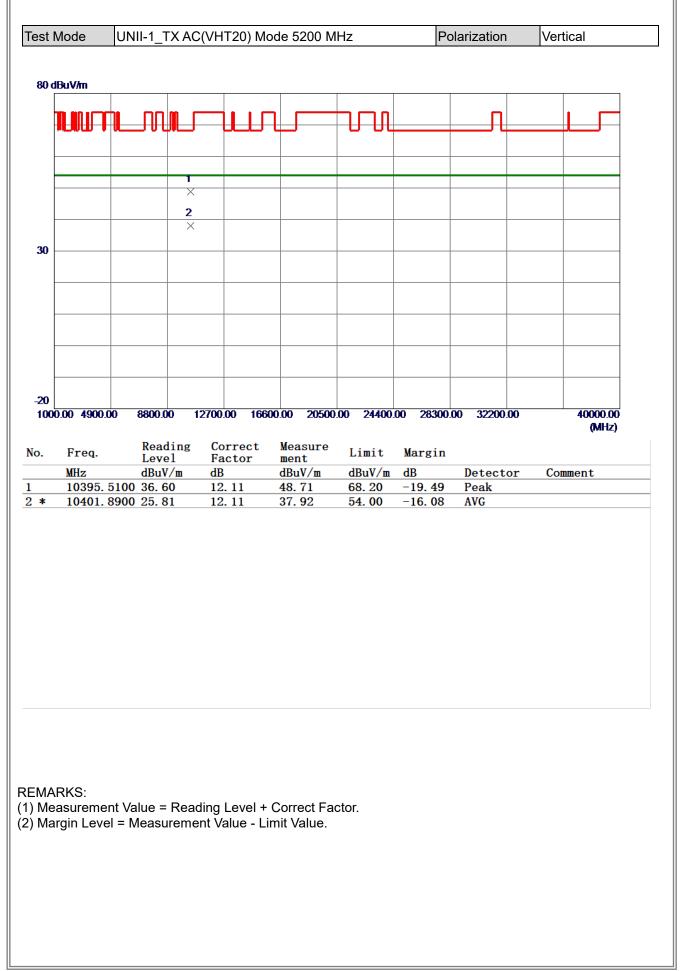




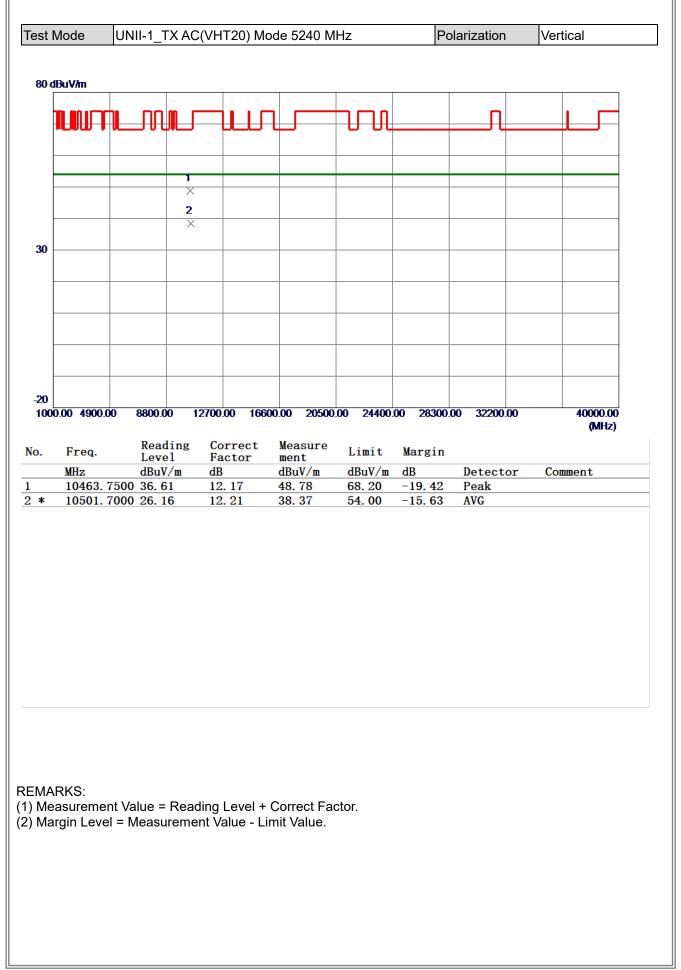




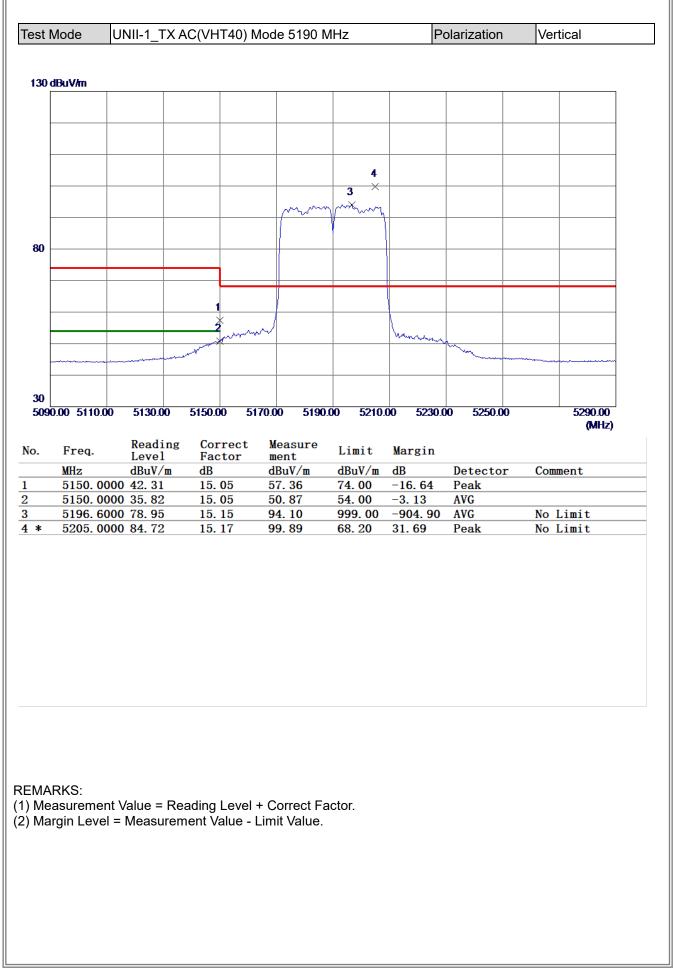




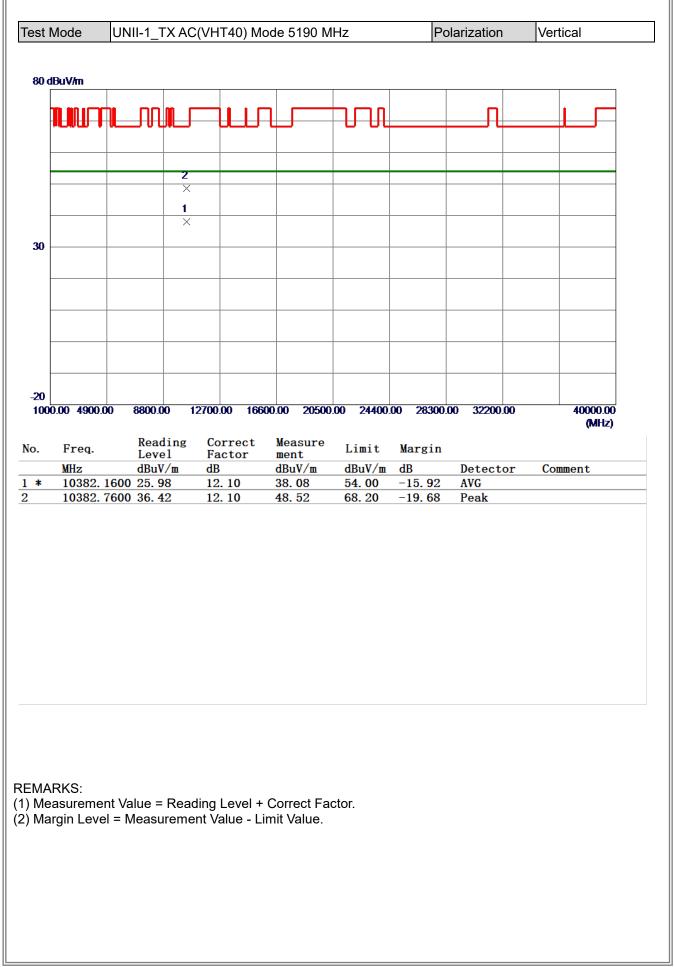




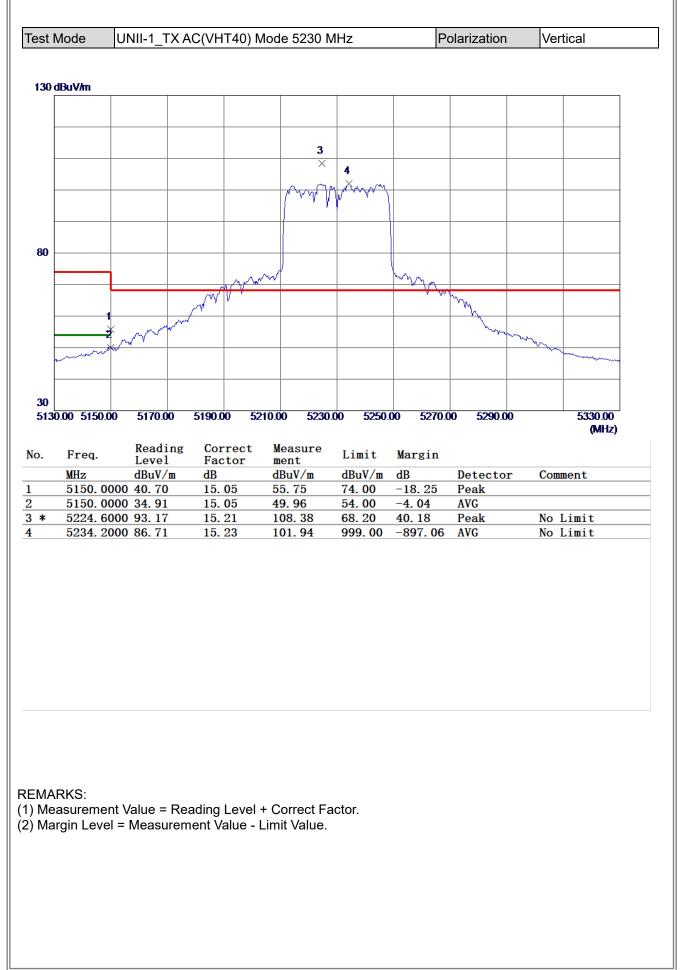




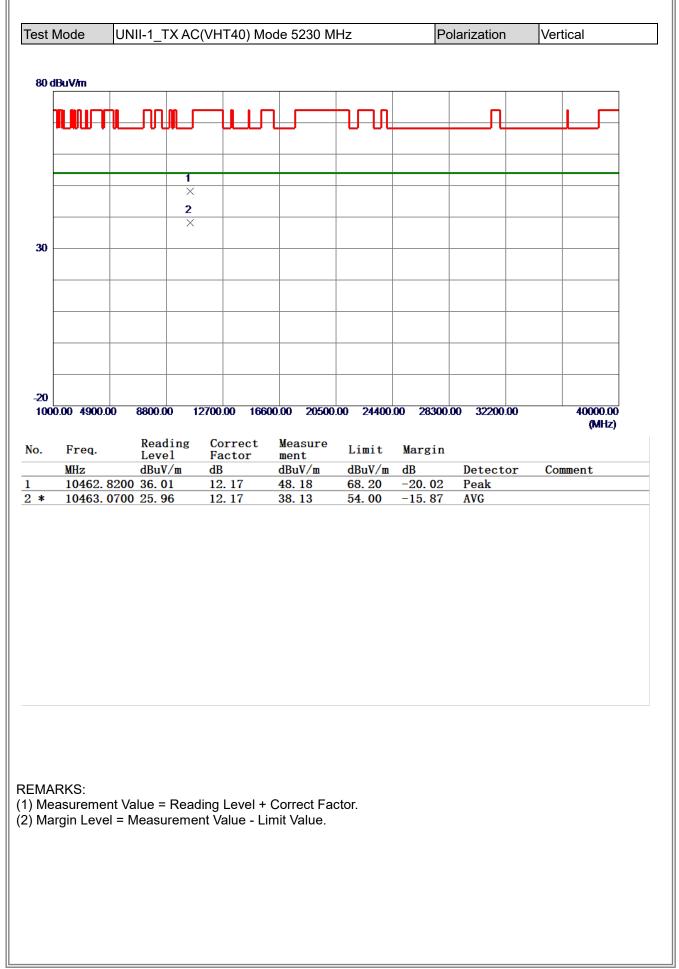




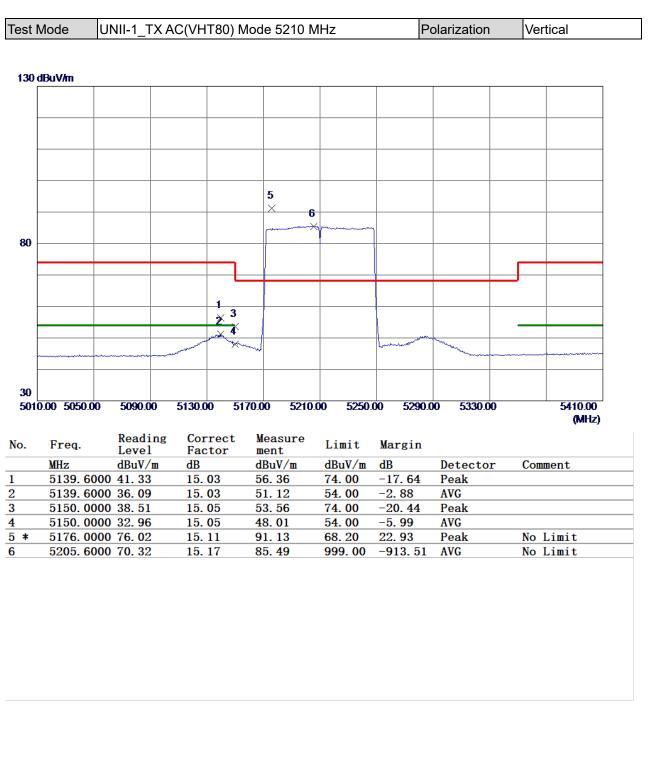






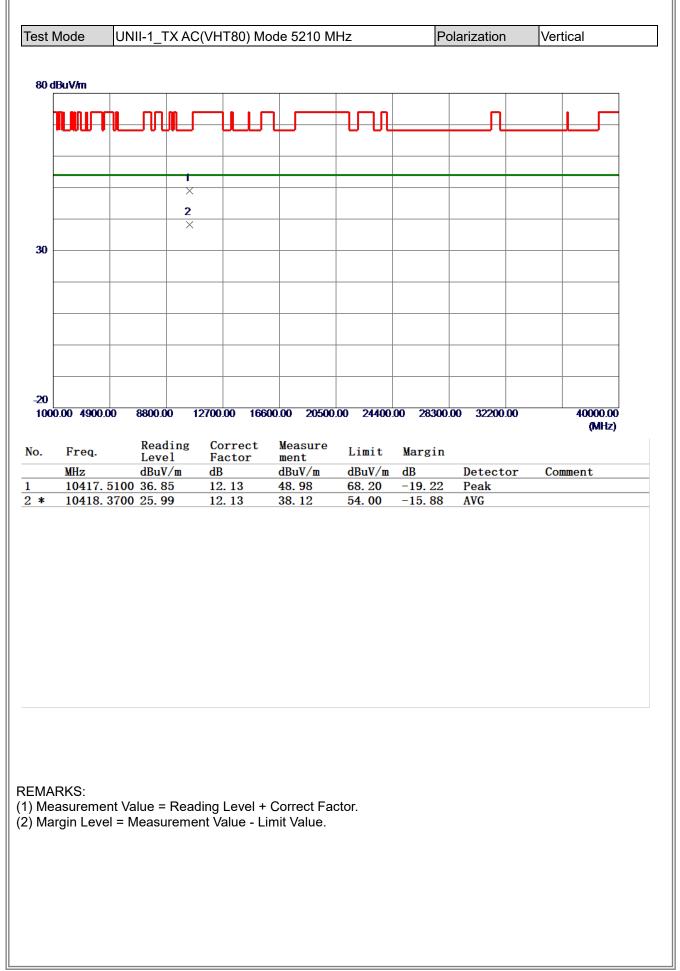




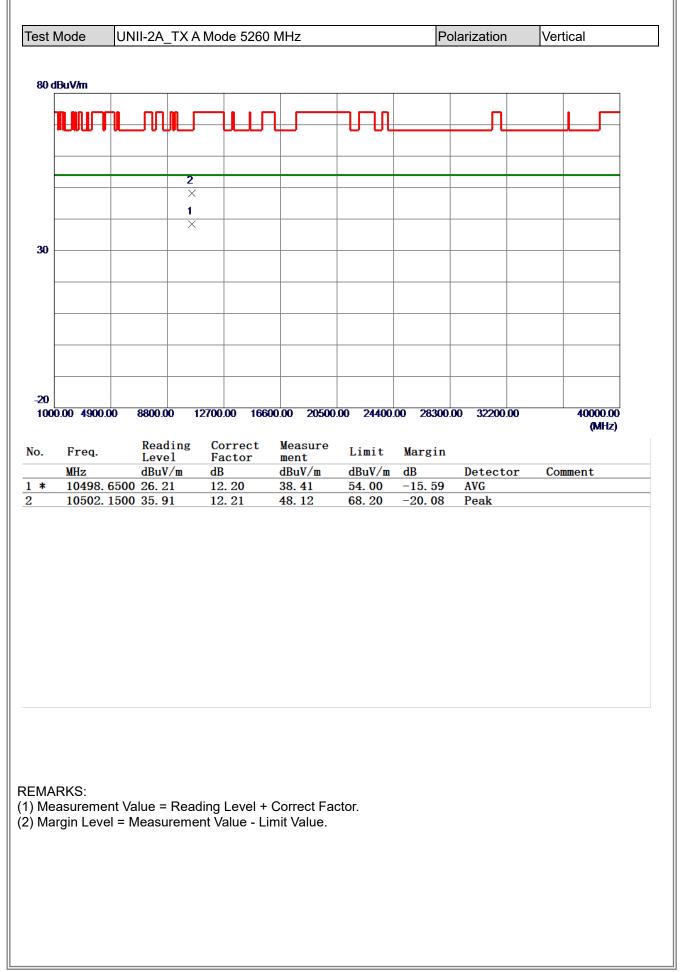


- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.

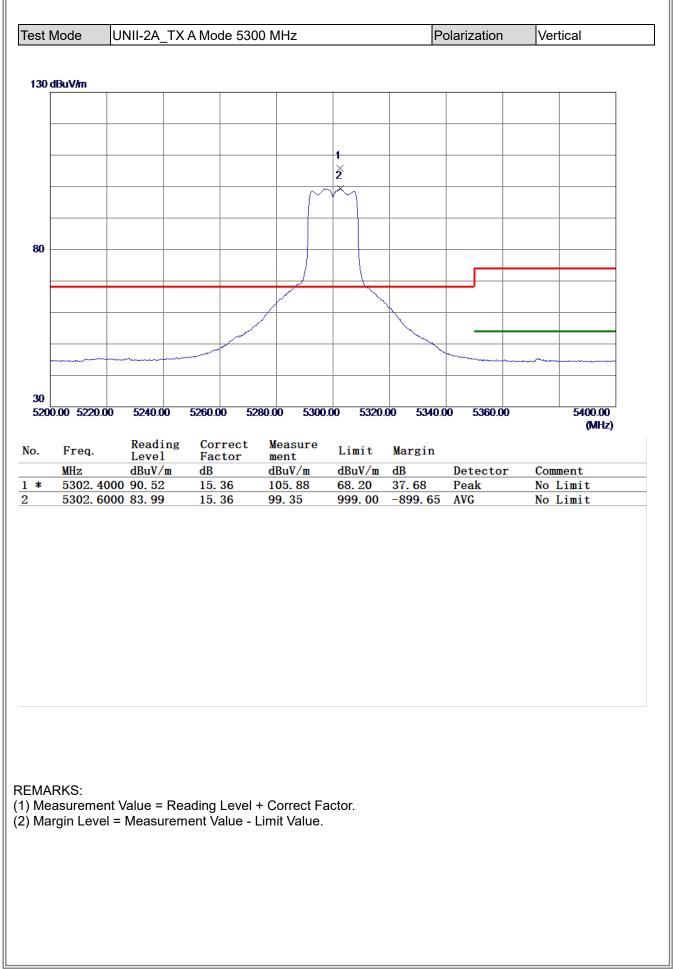




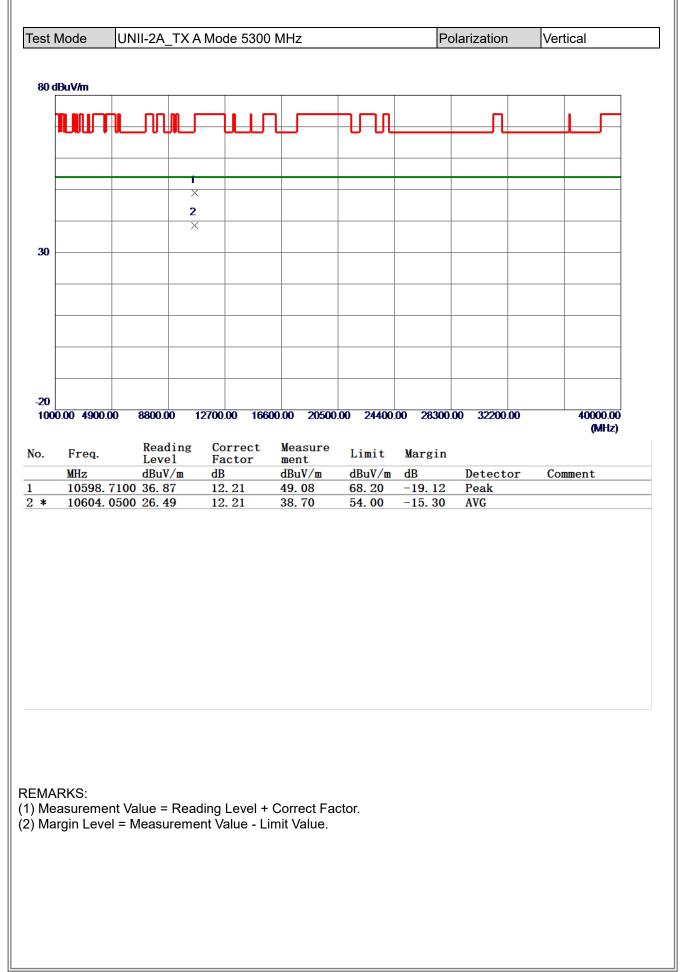




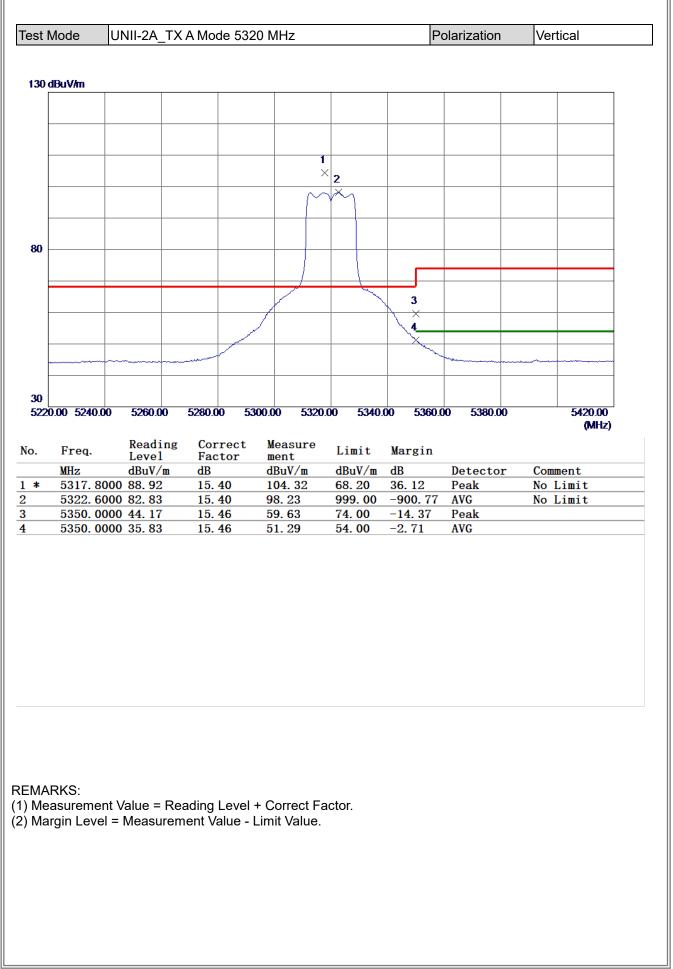
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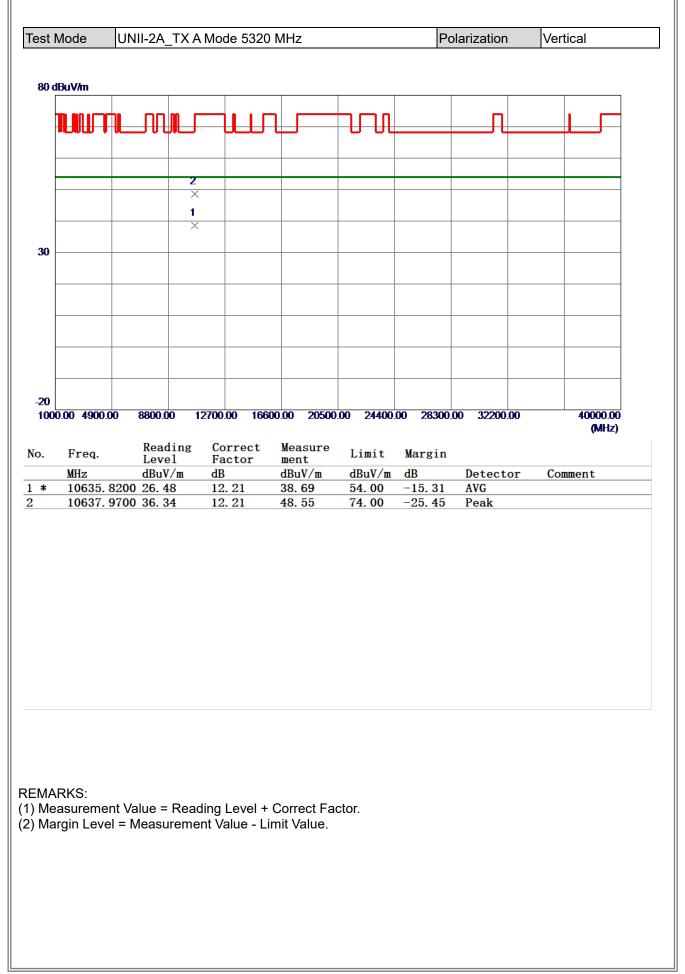




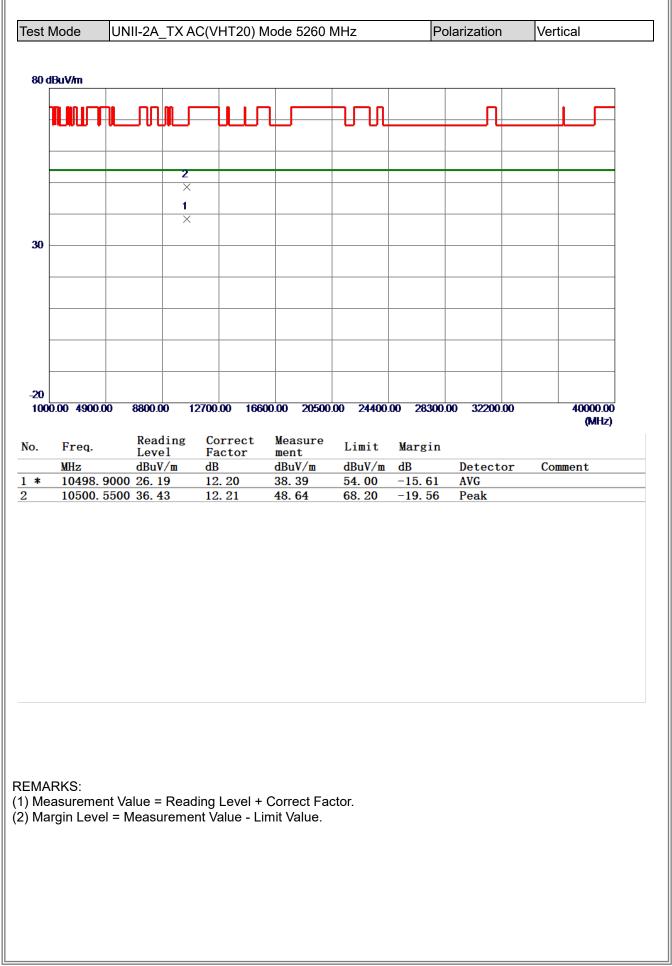
BIL



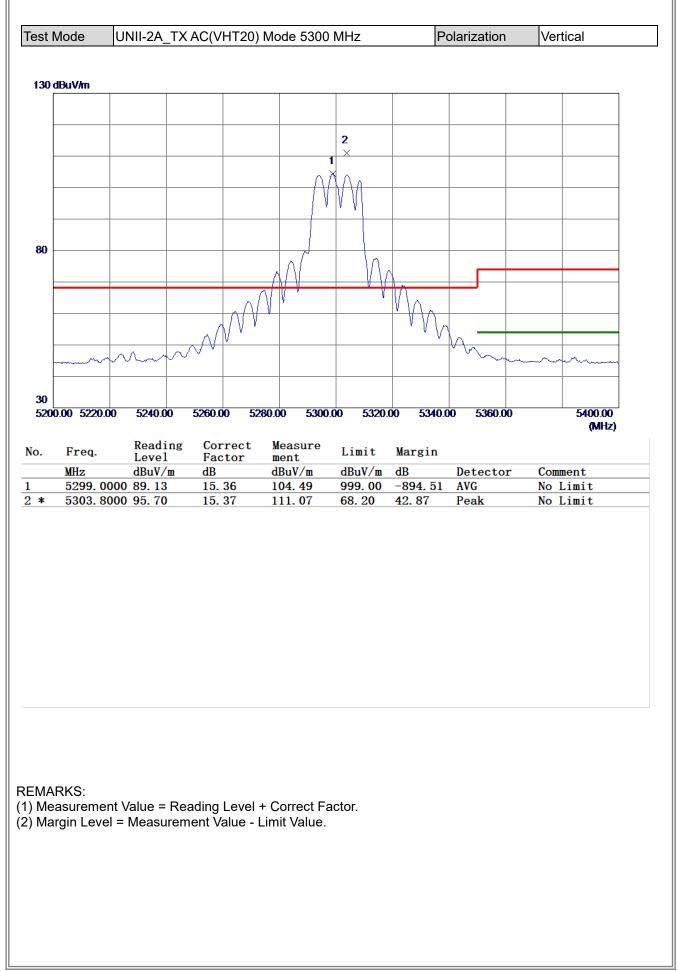




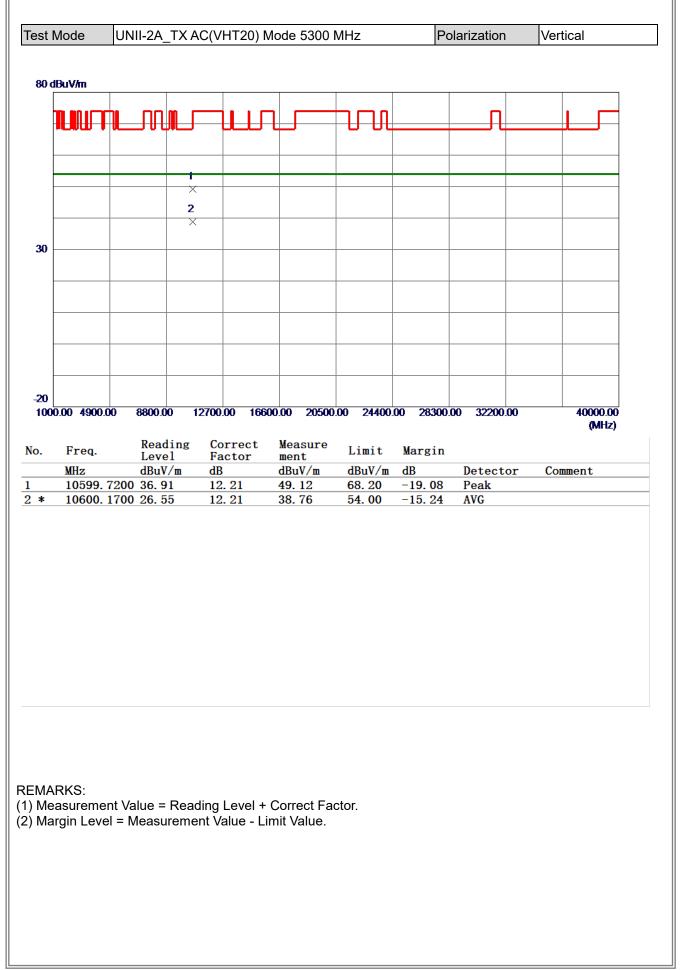




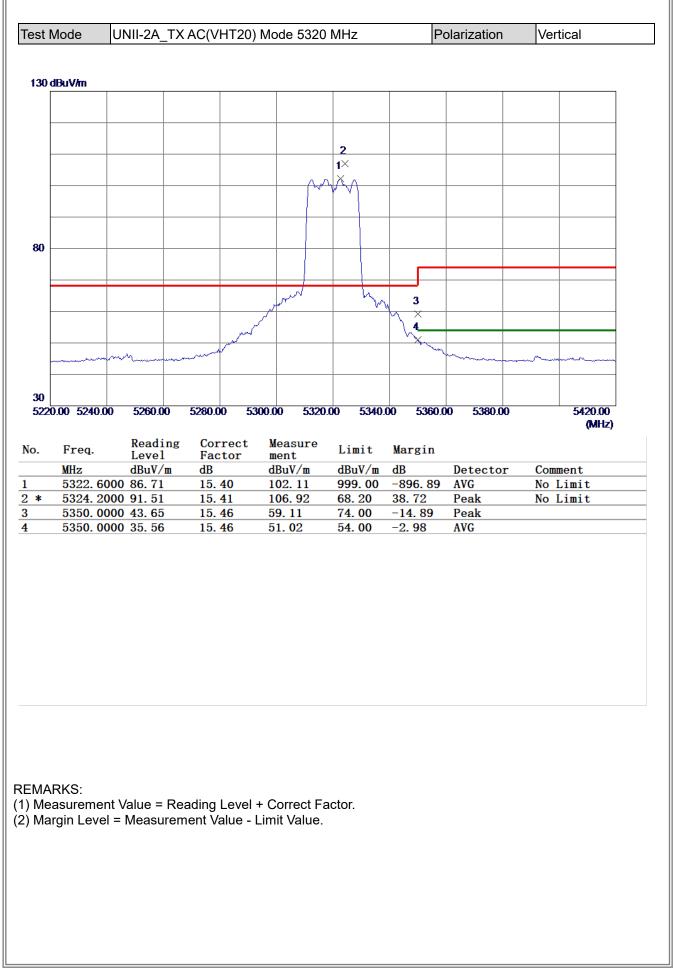




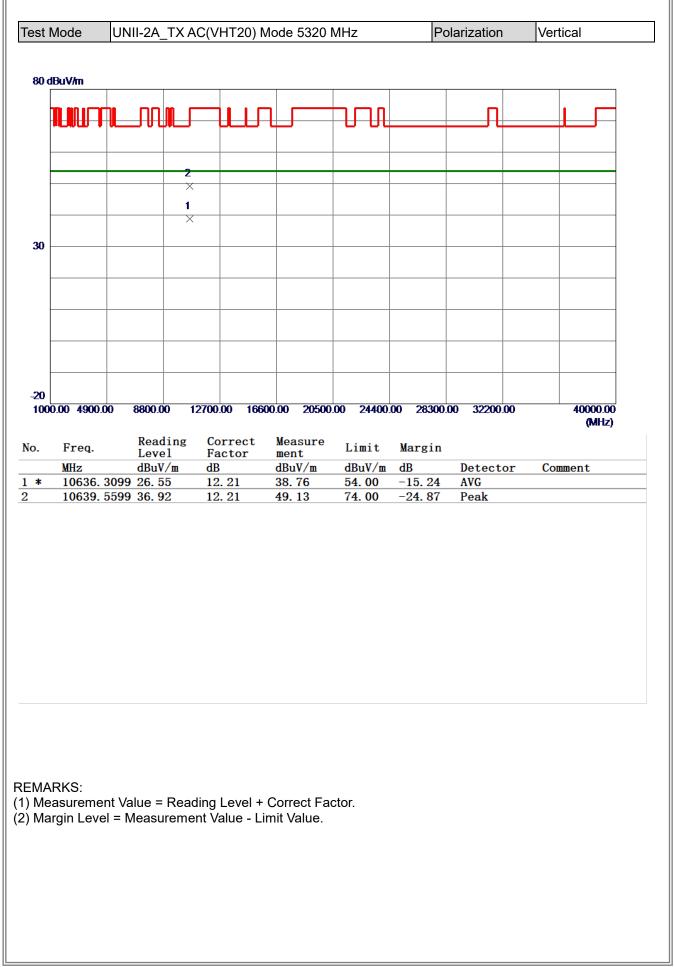




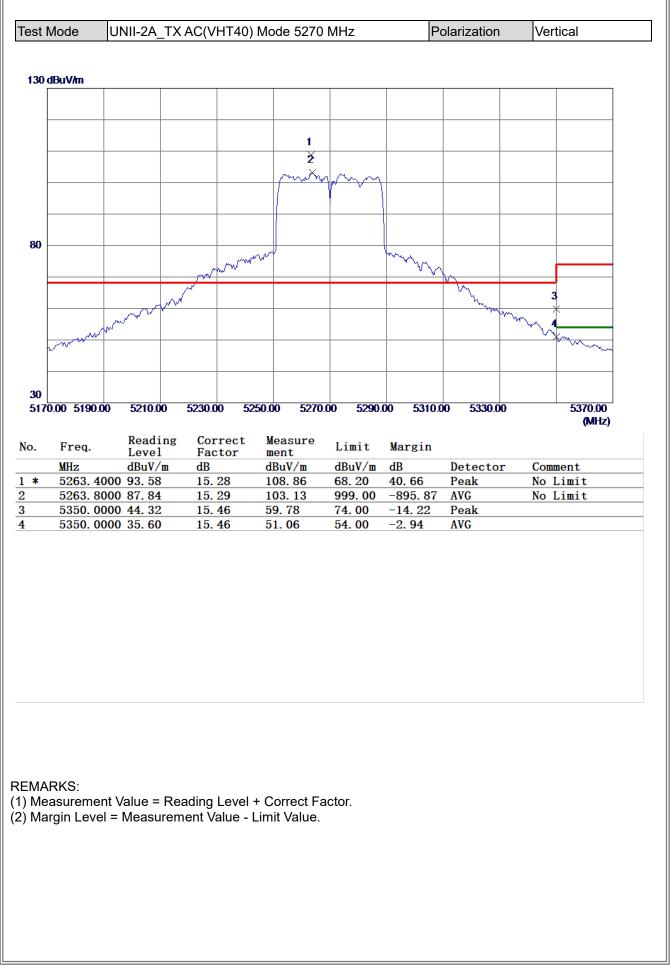




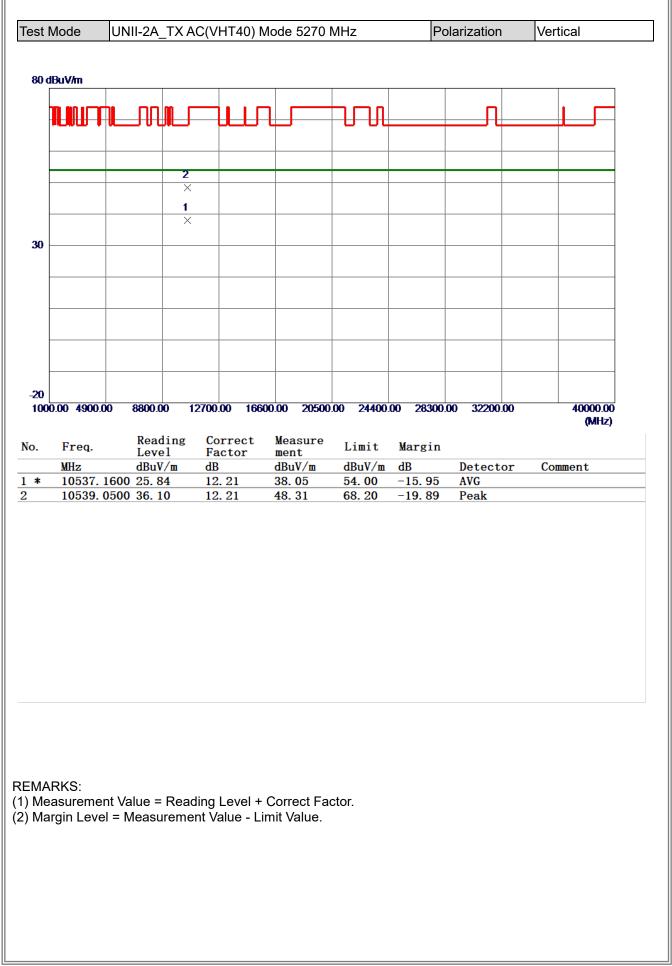




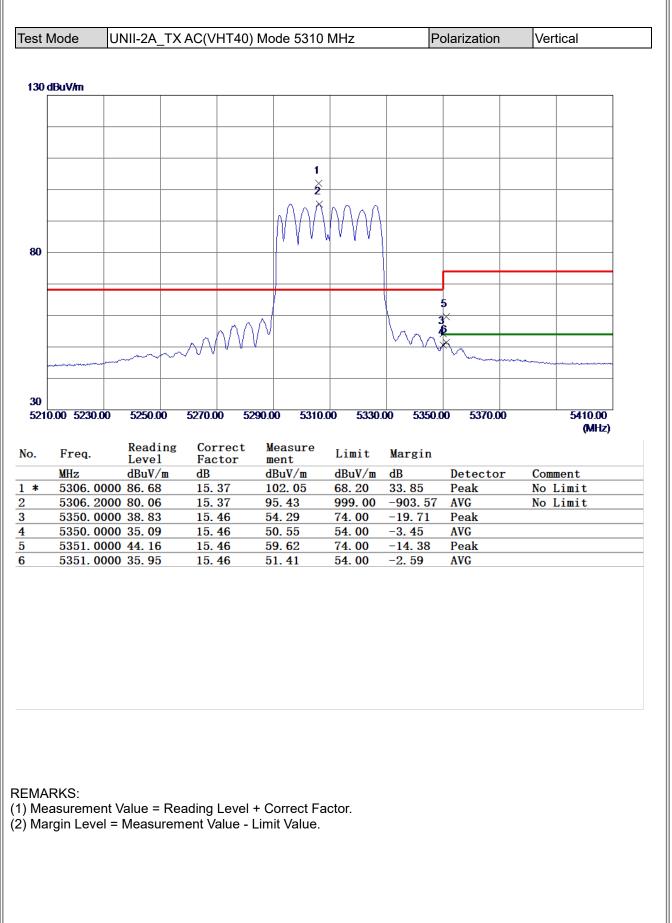




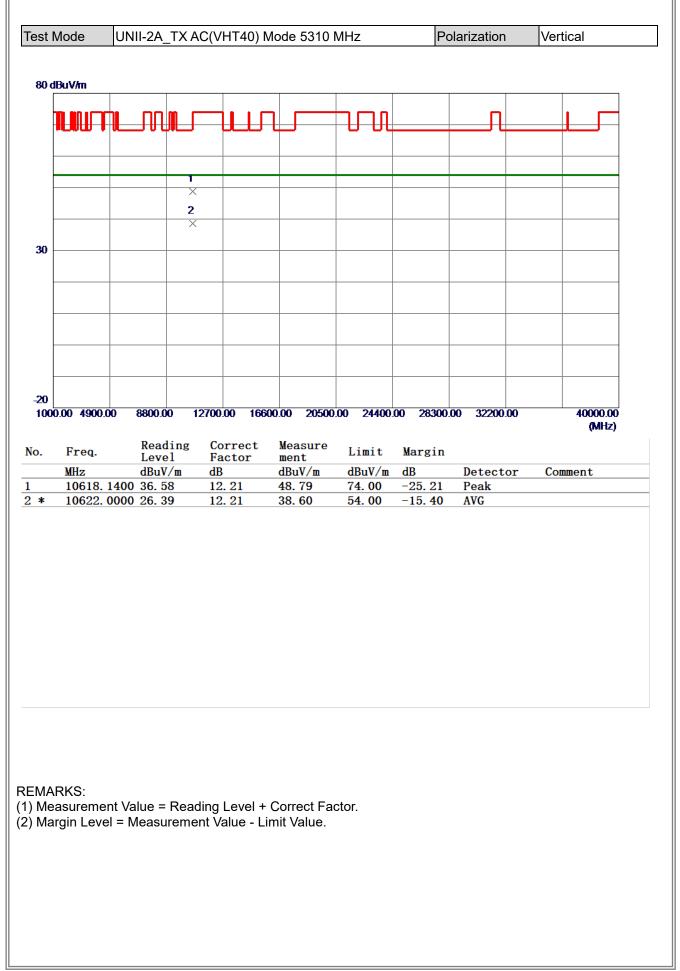




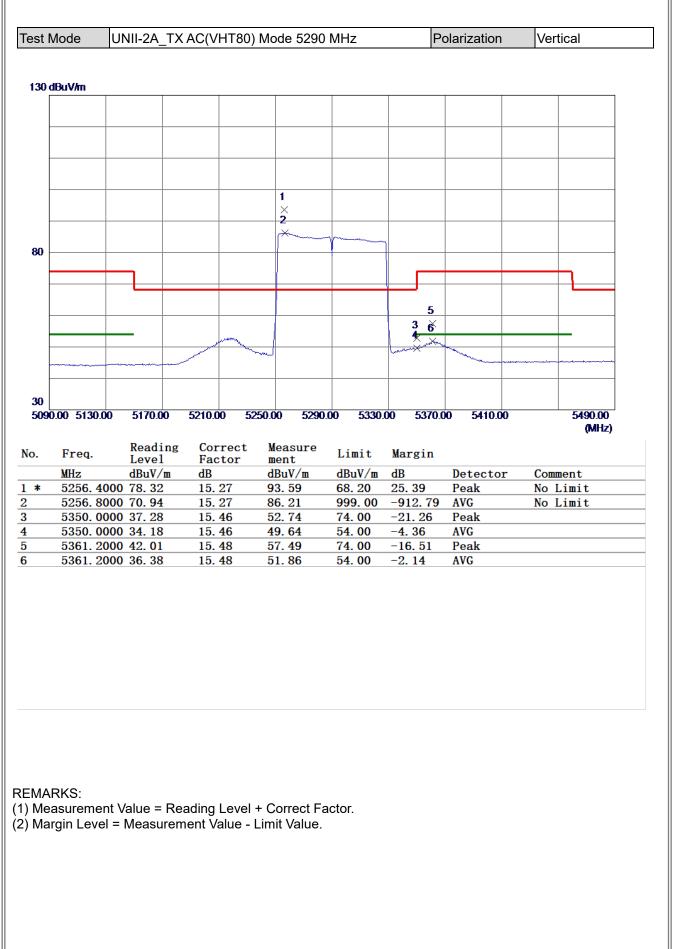




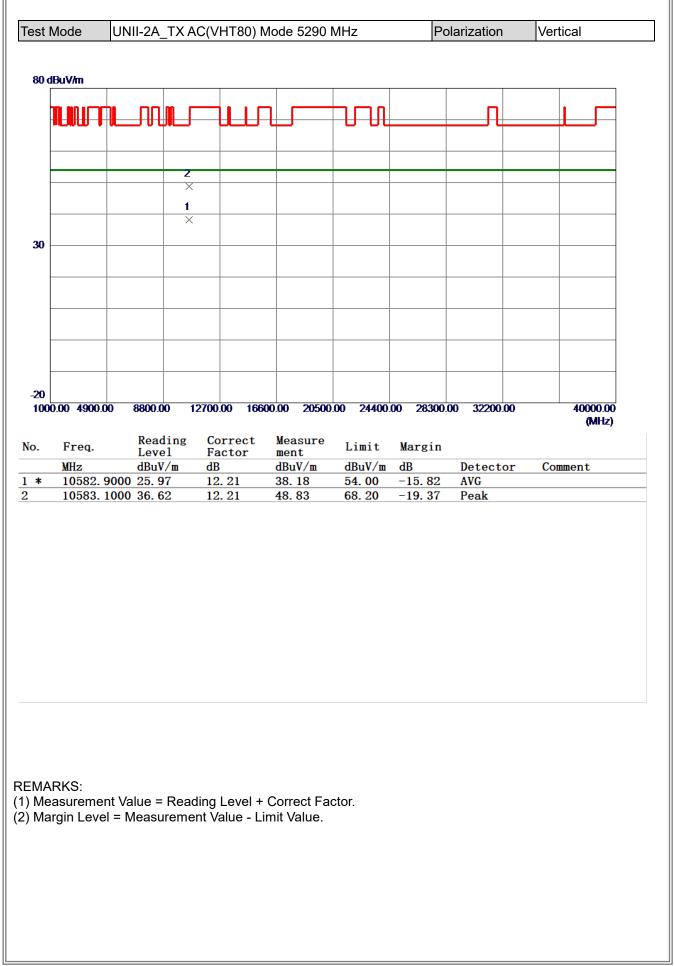




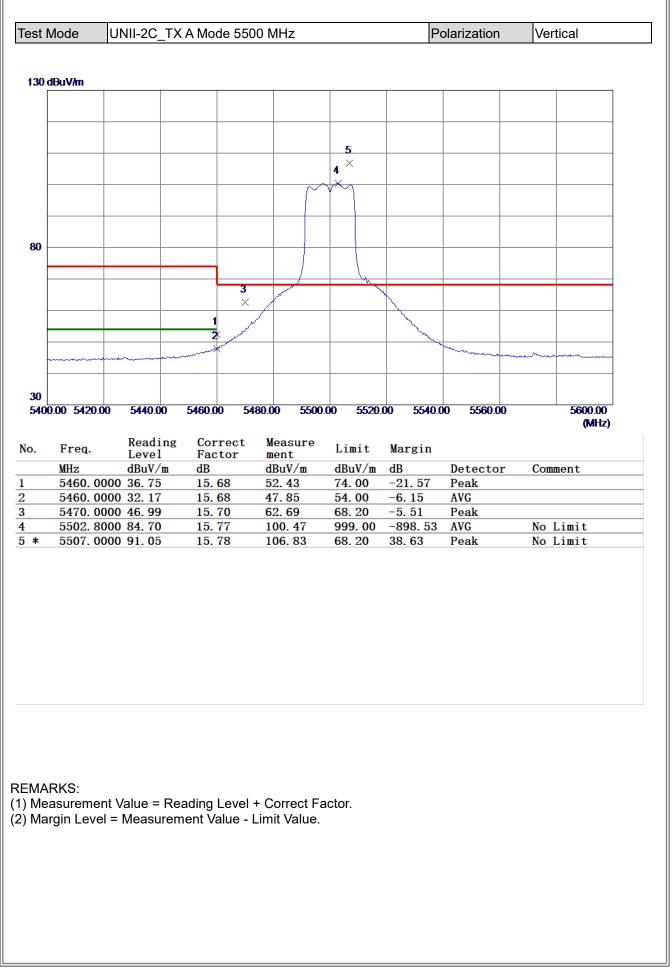




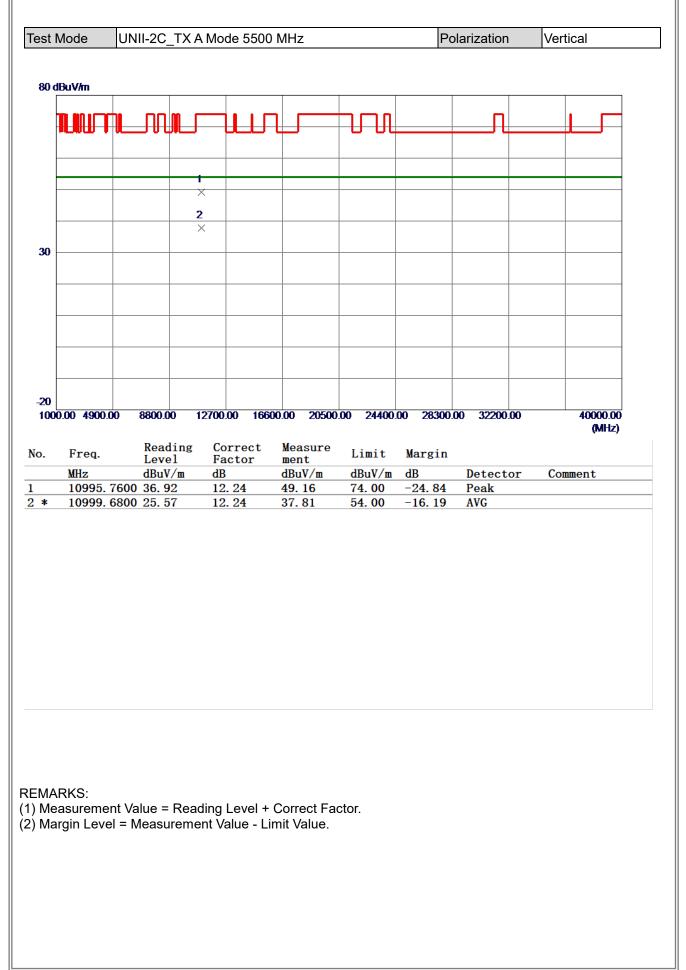




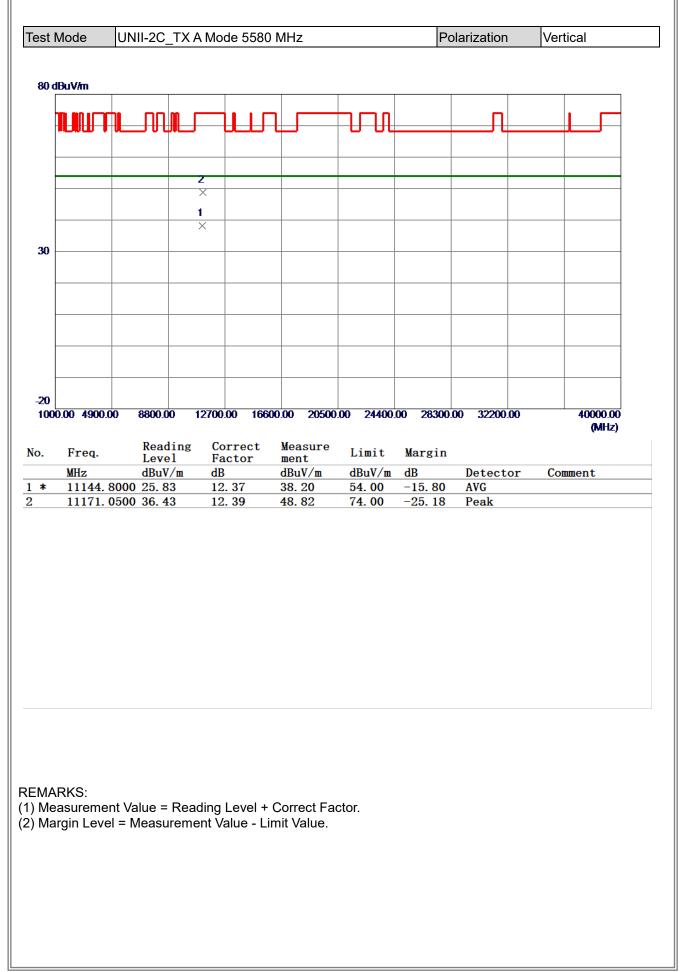
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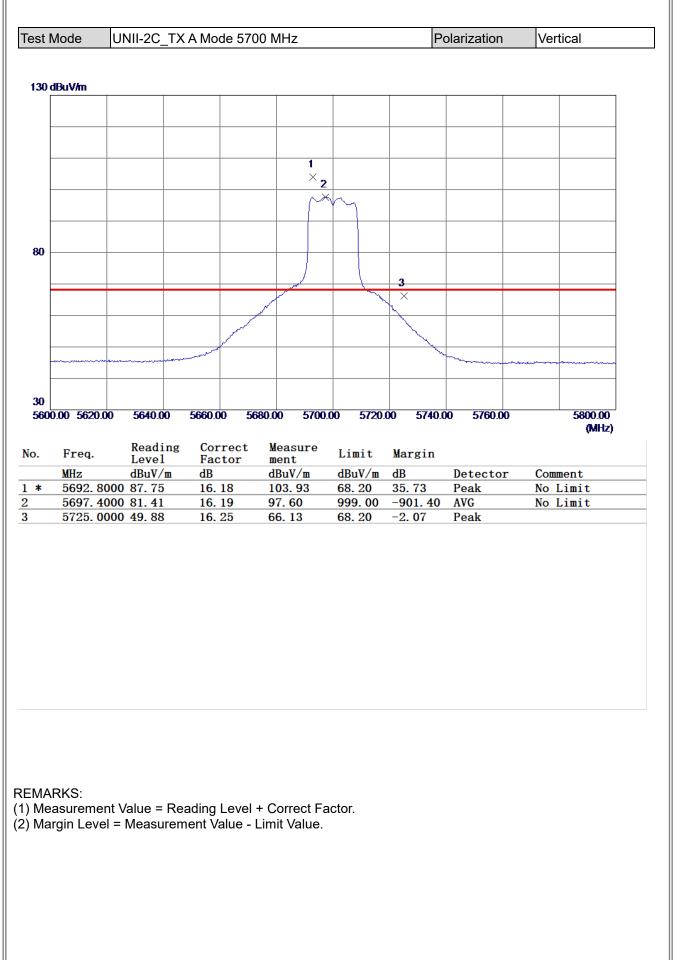




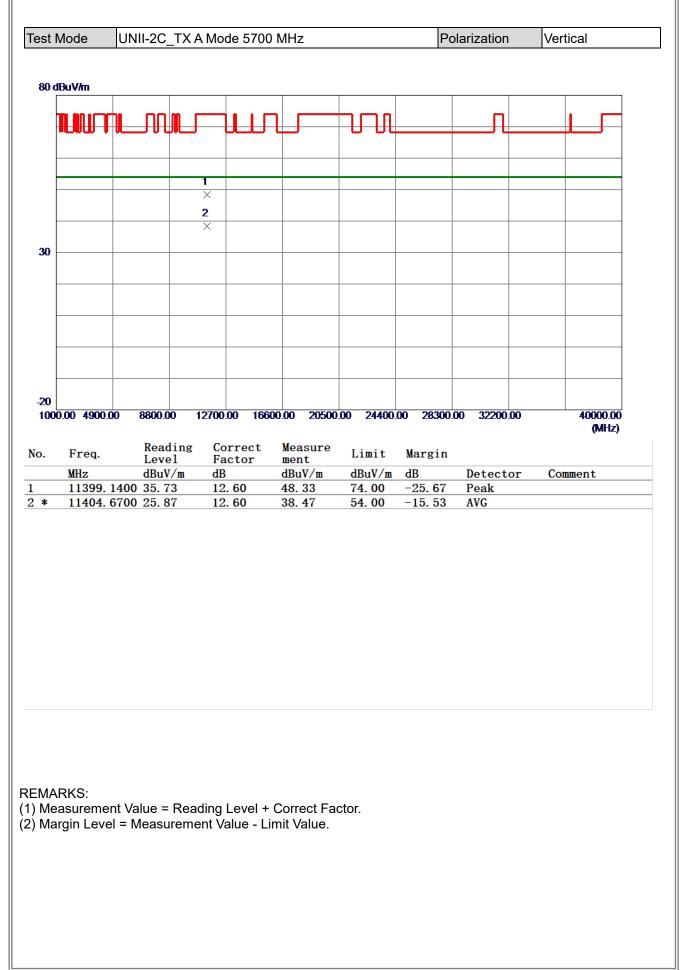




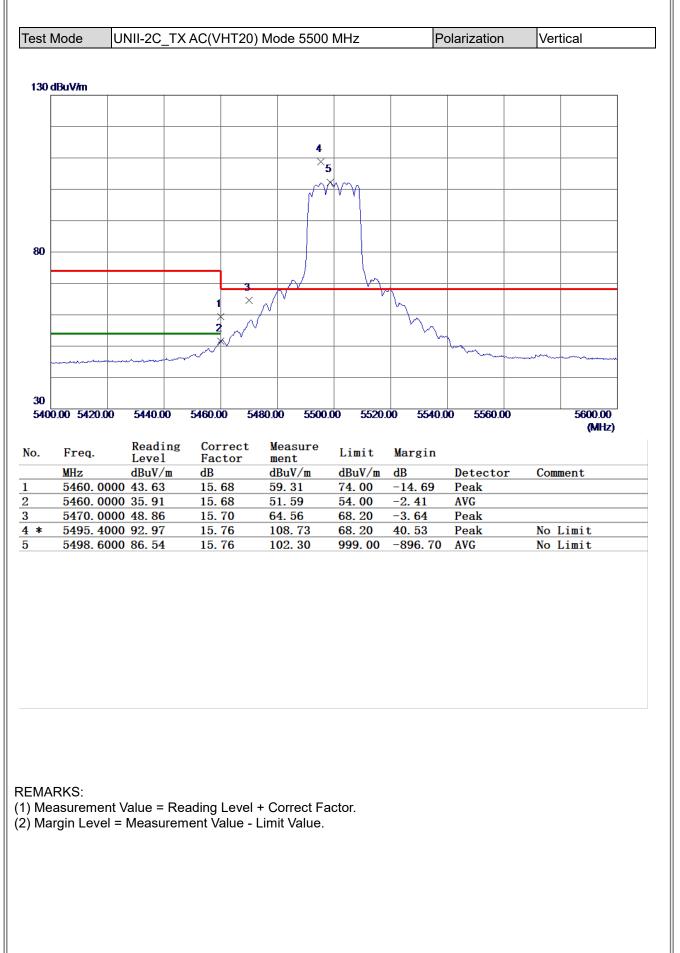




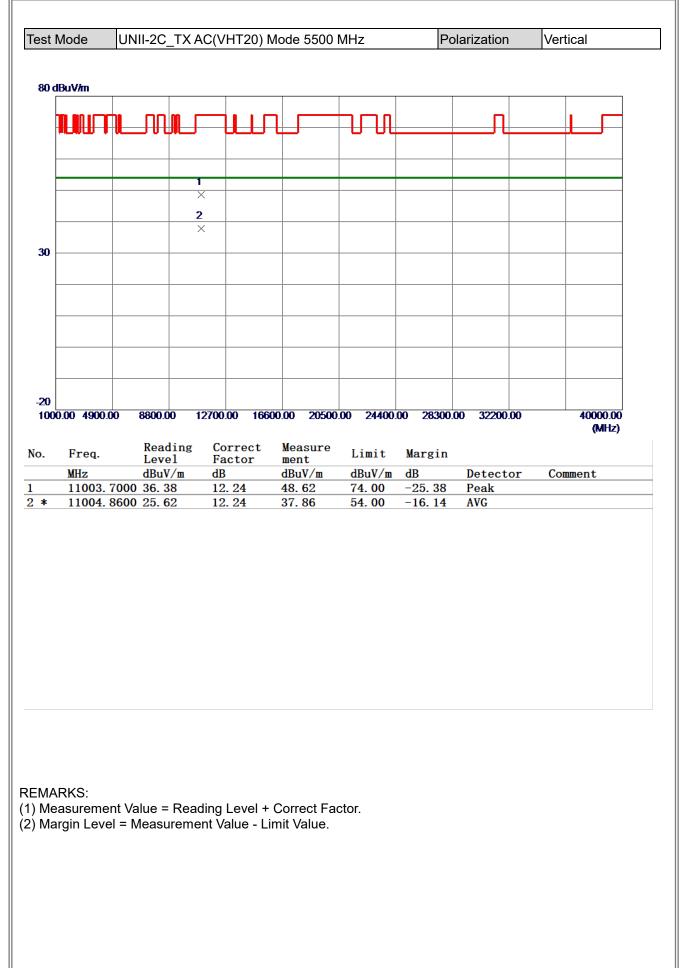




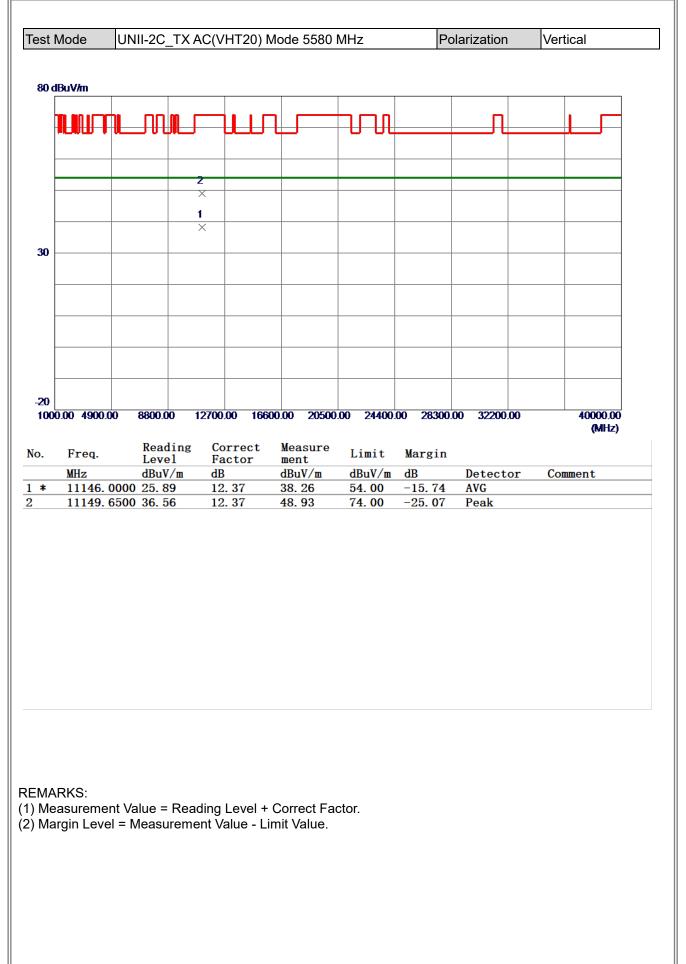




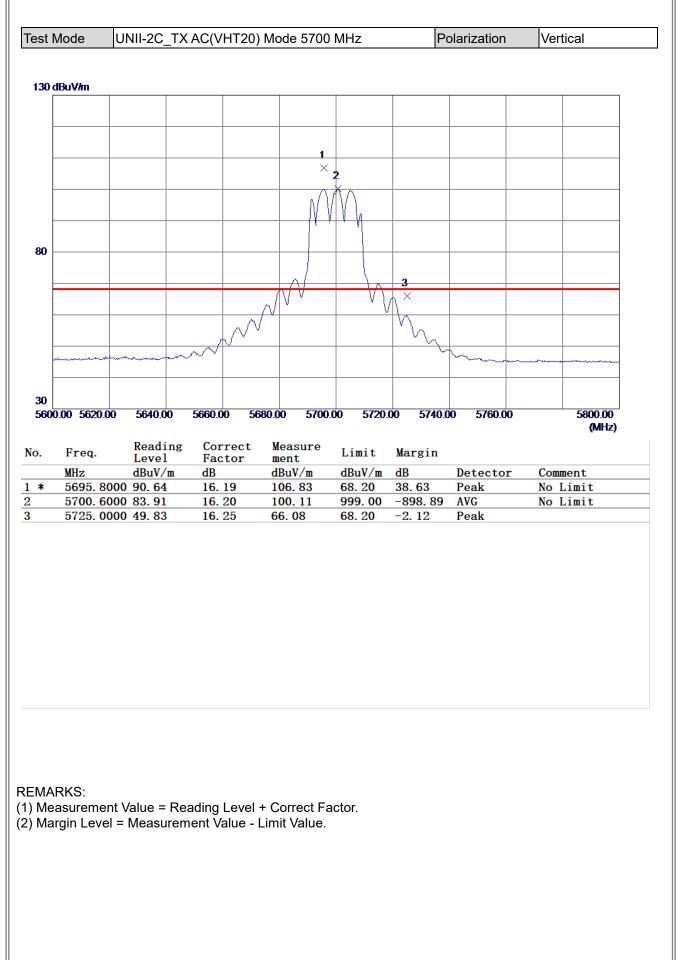




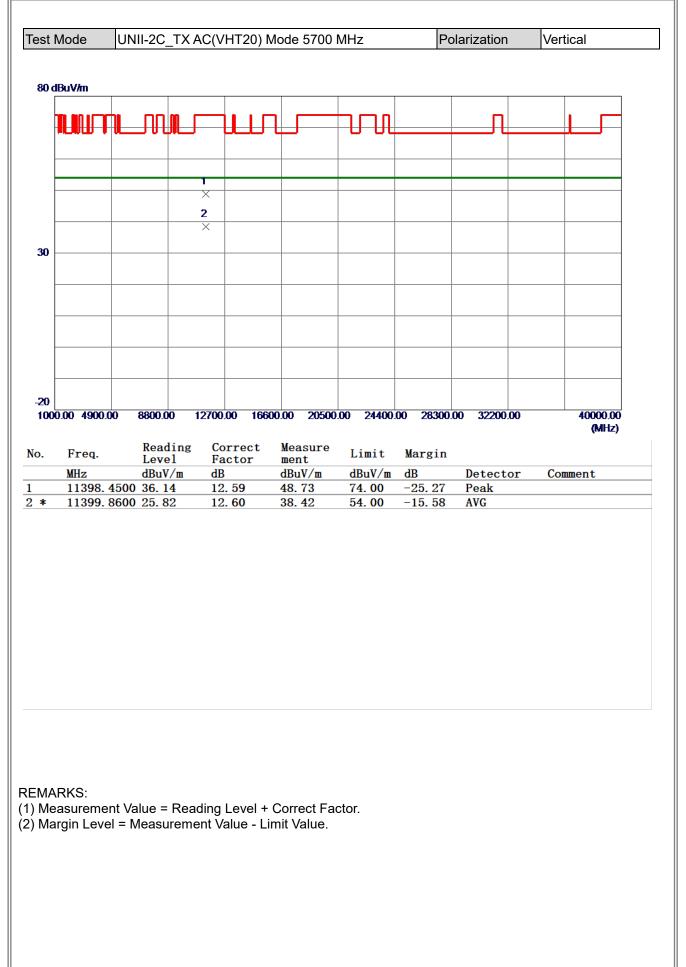




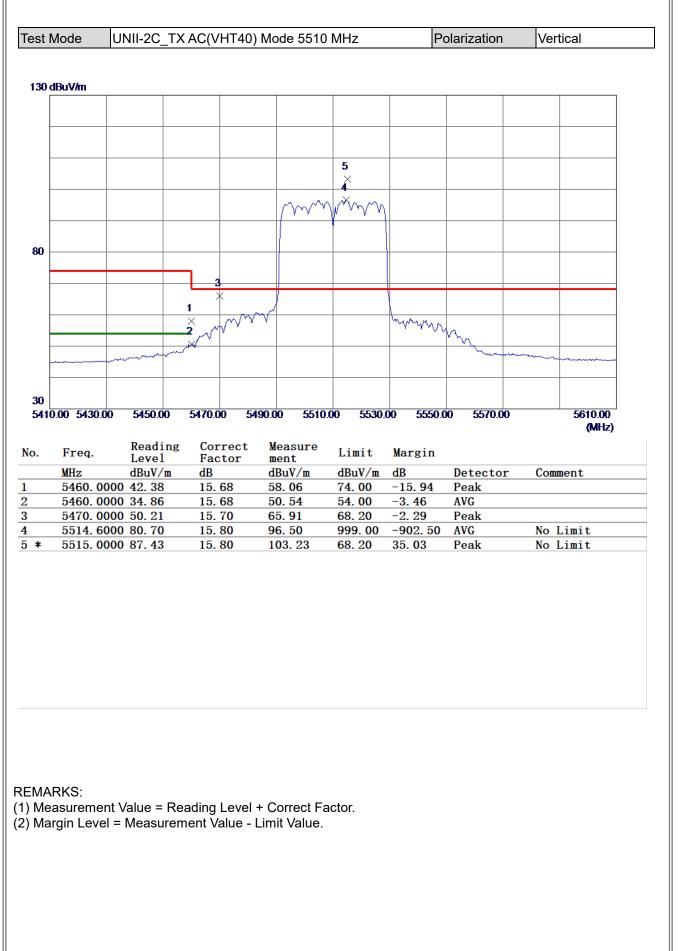




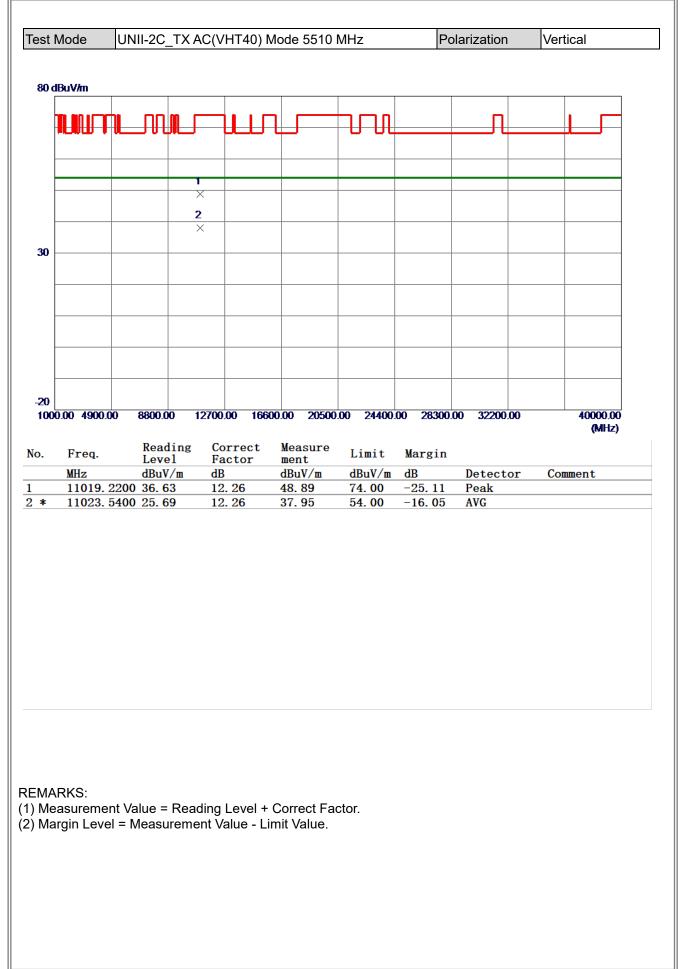




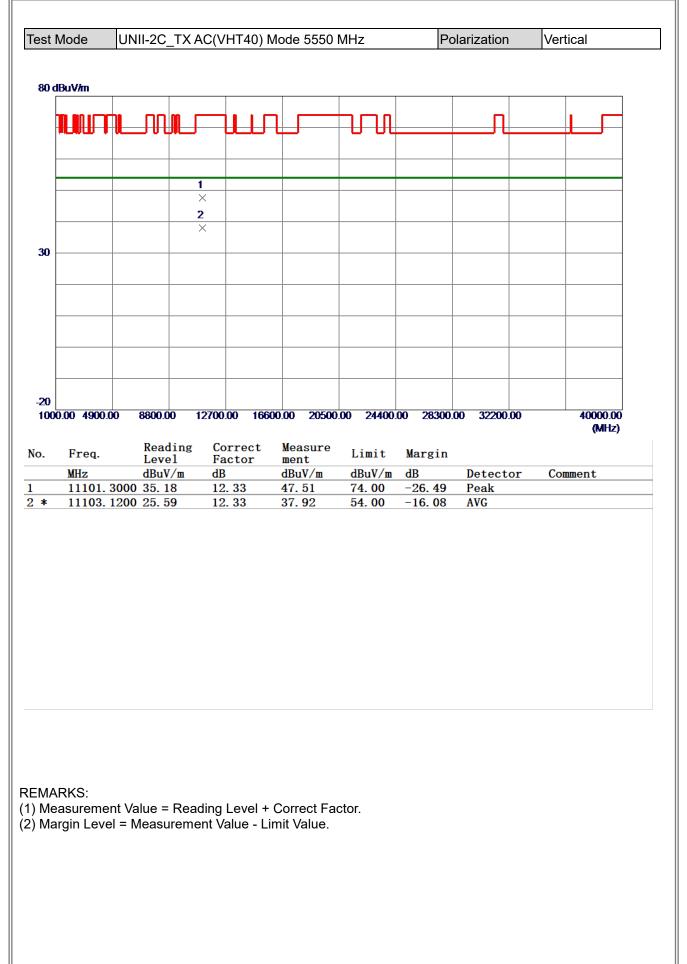




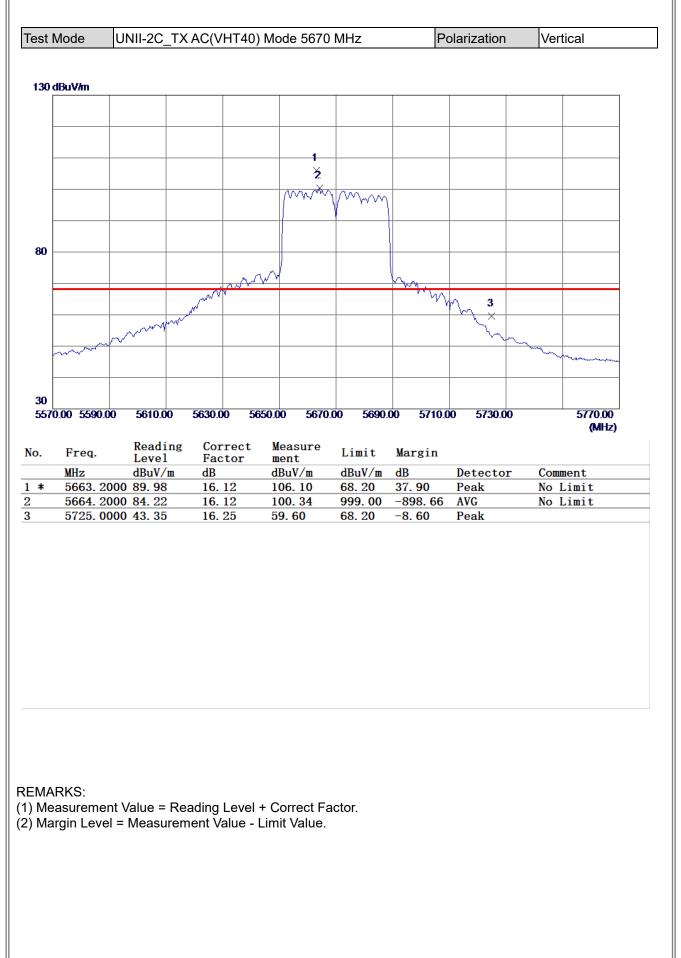




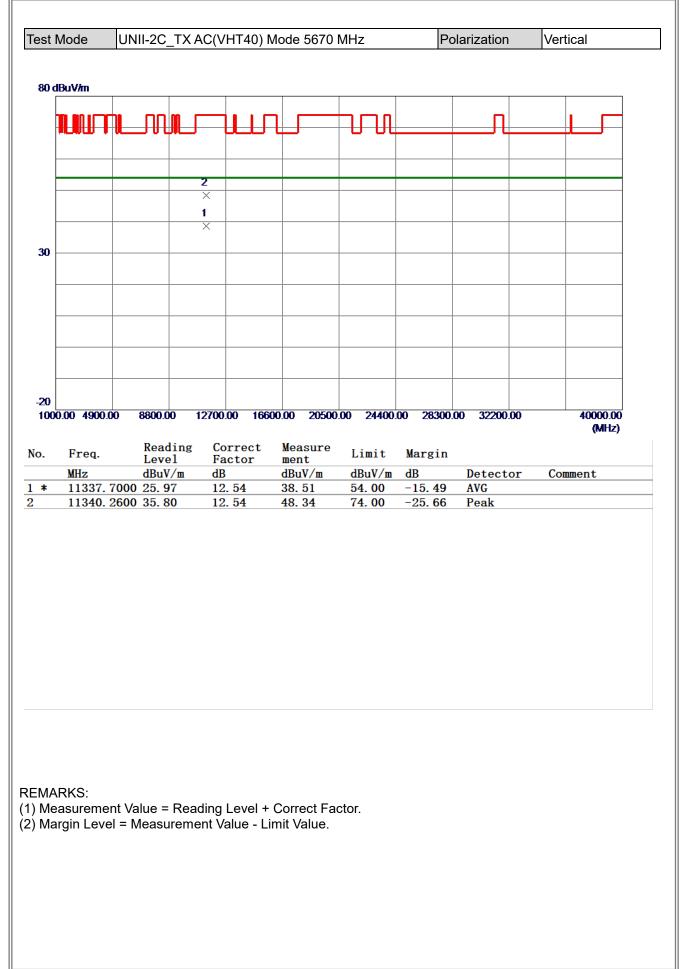




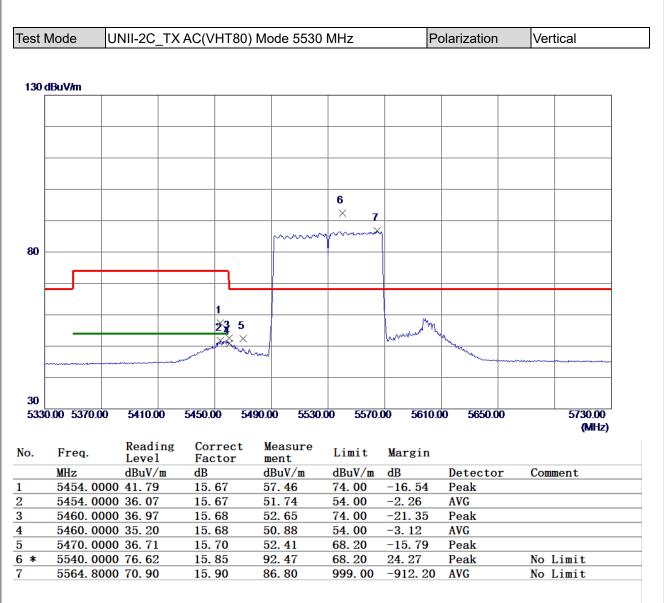








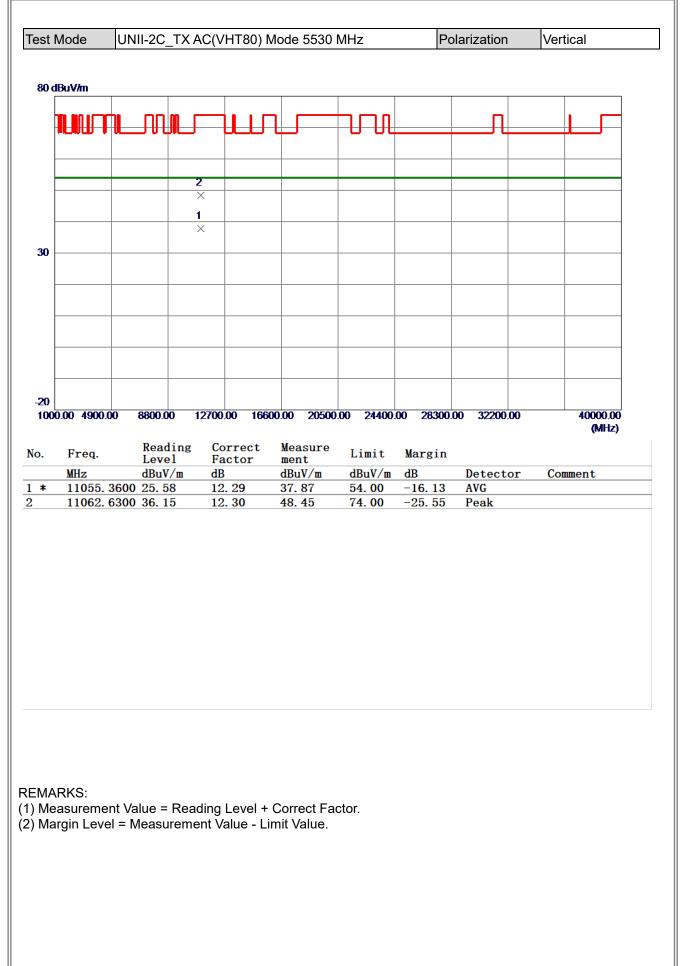




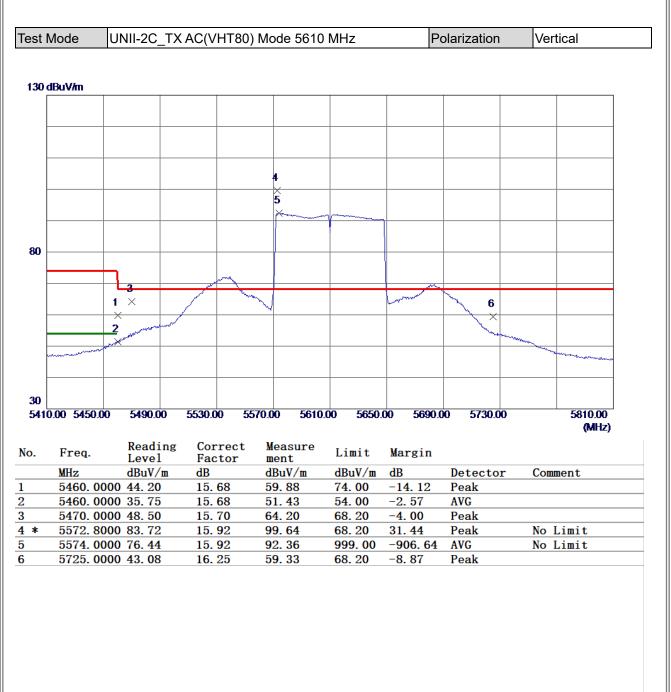
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





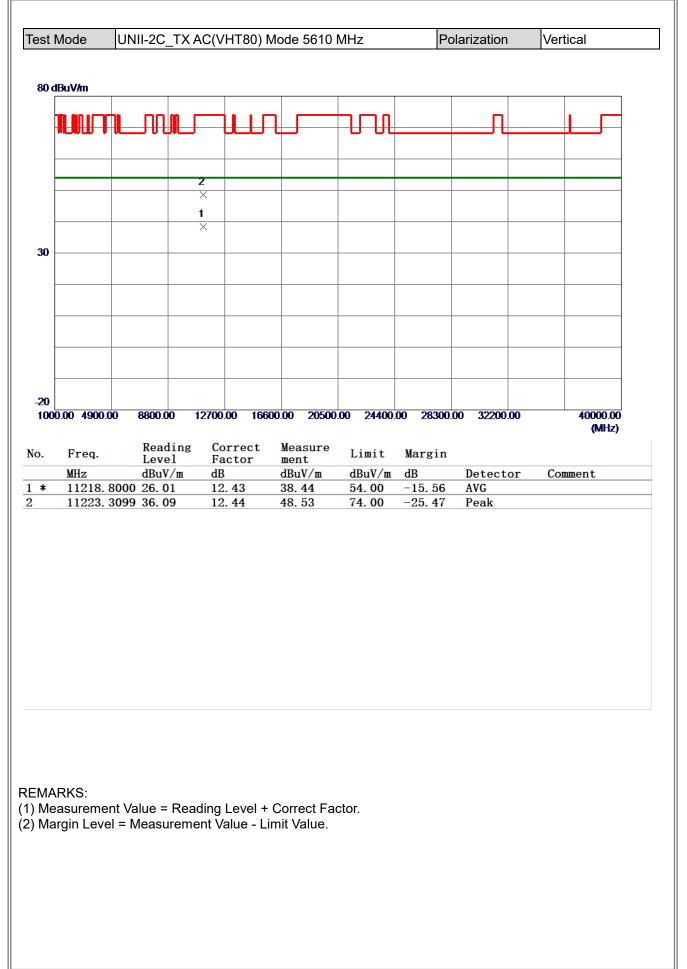




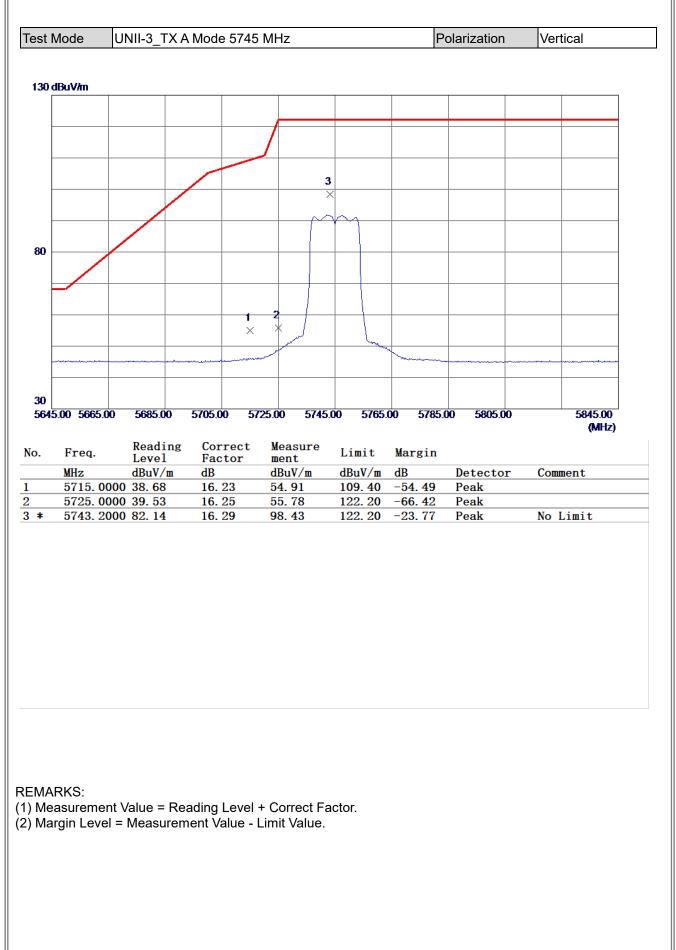
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.

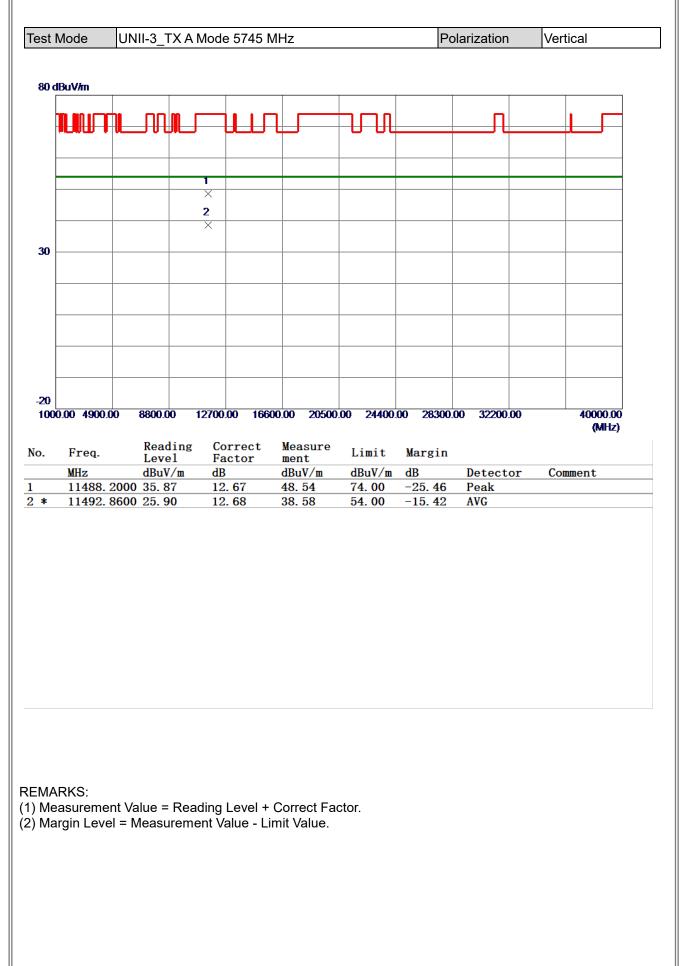




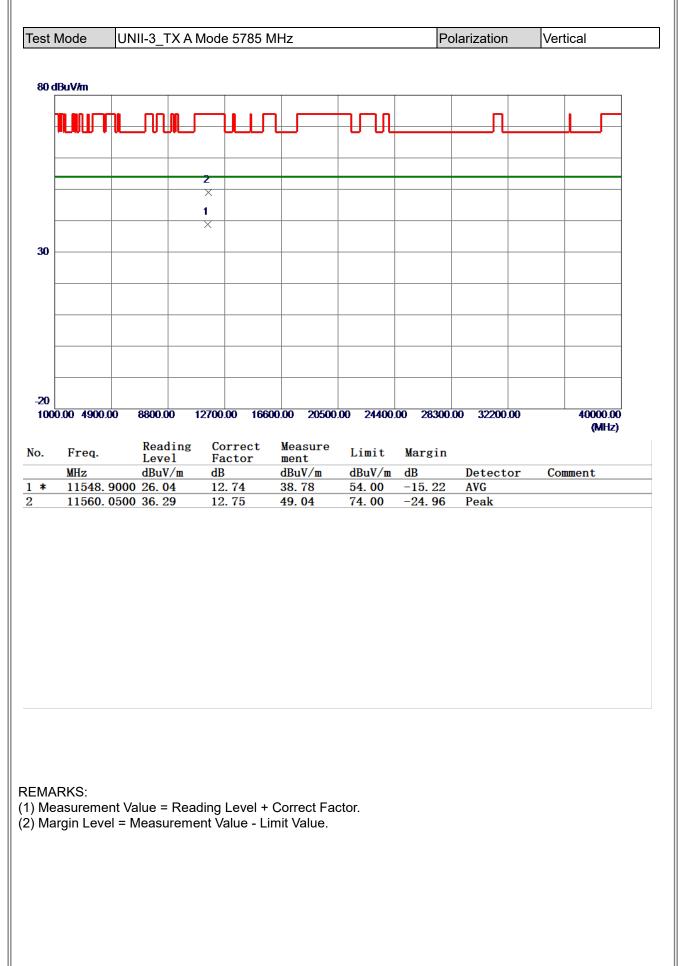




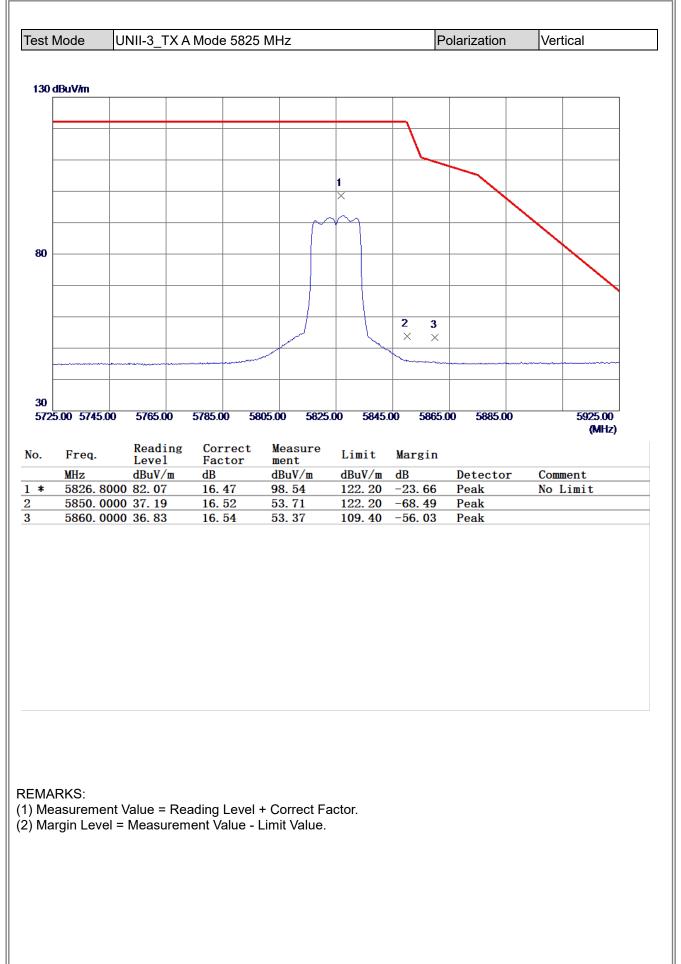




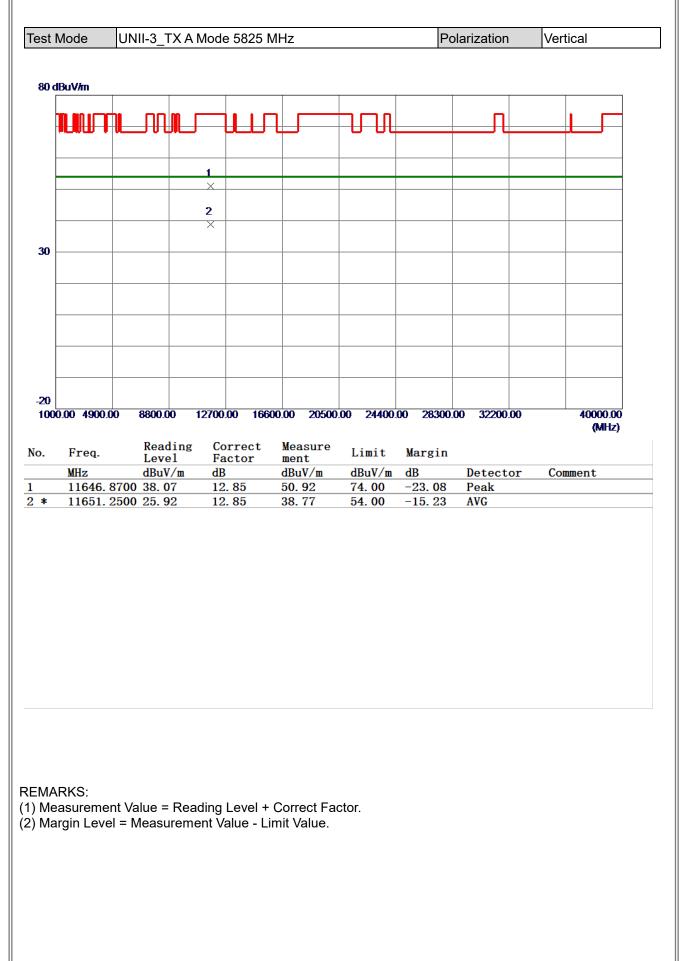




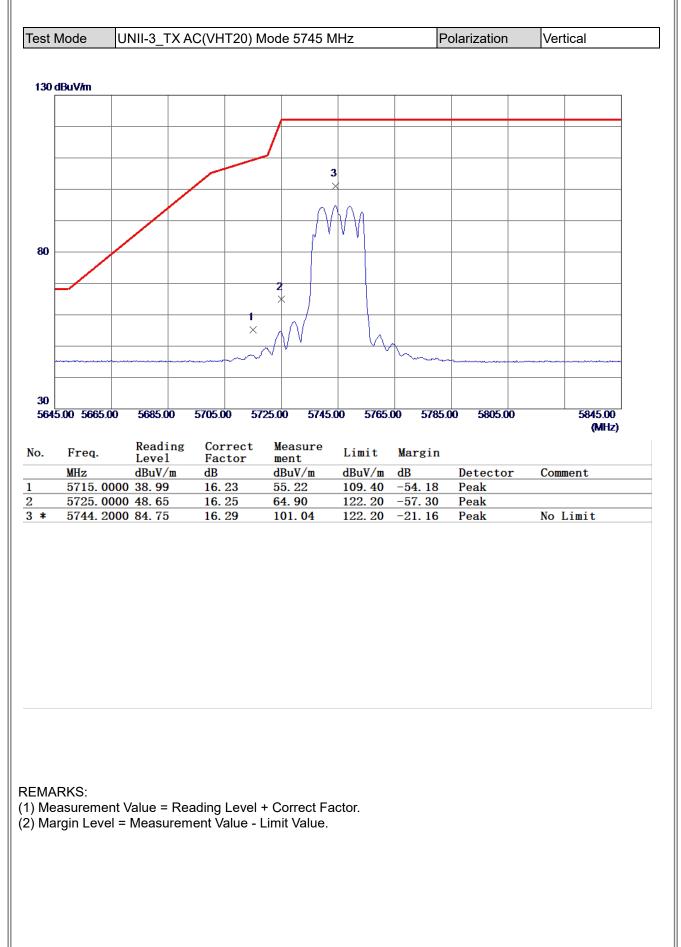
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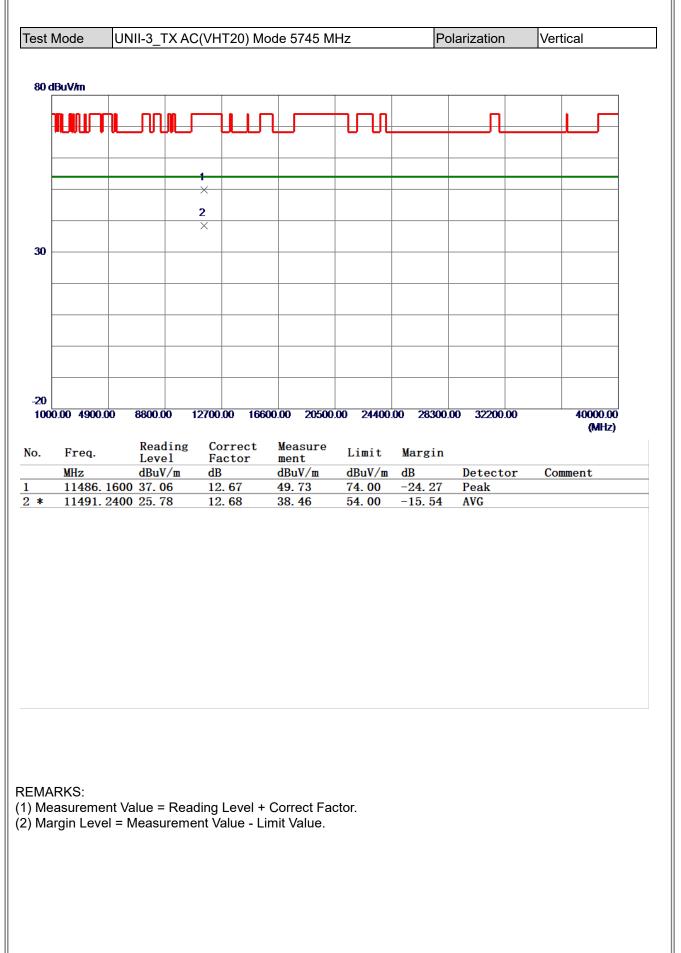




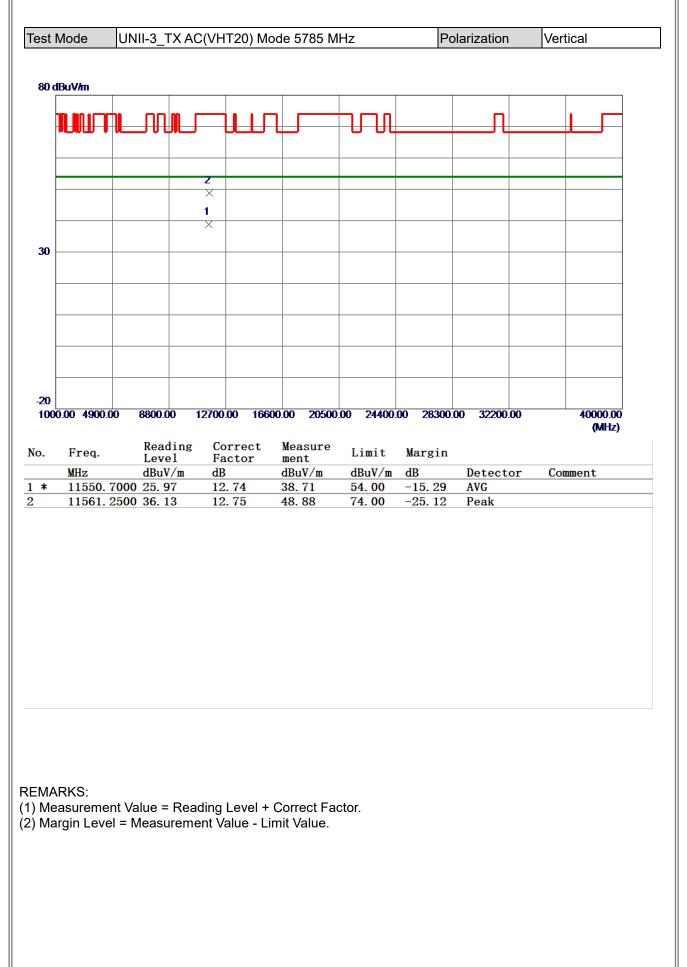




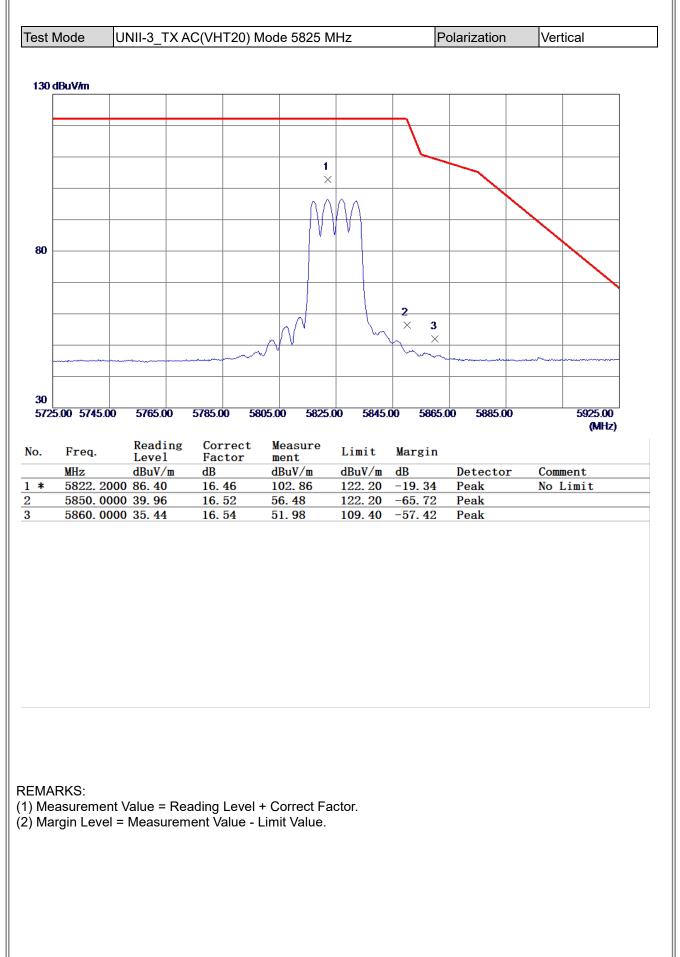




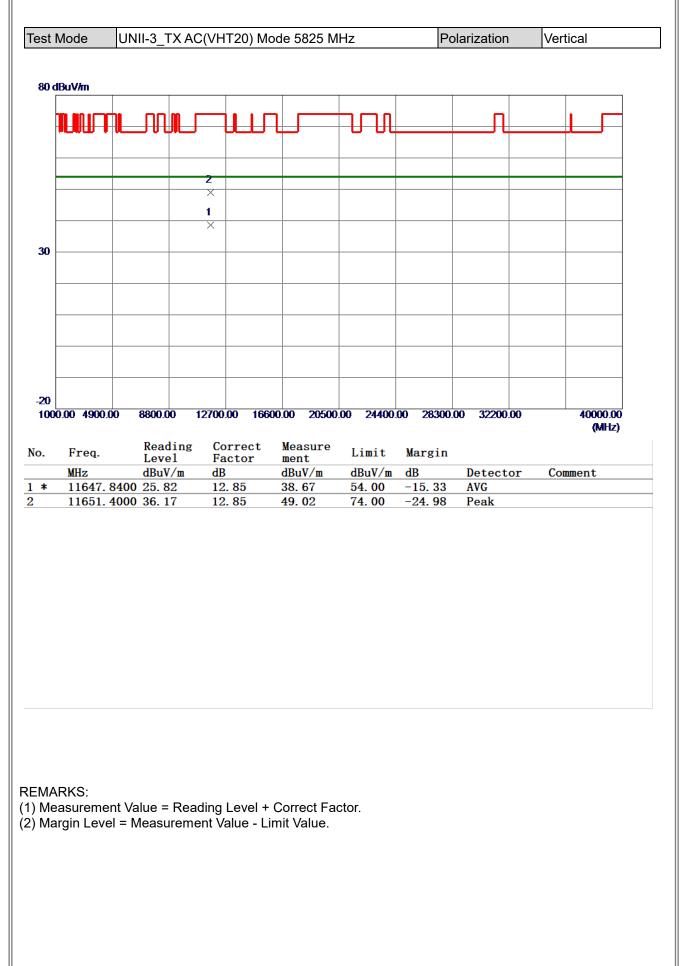




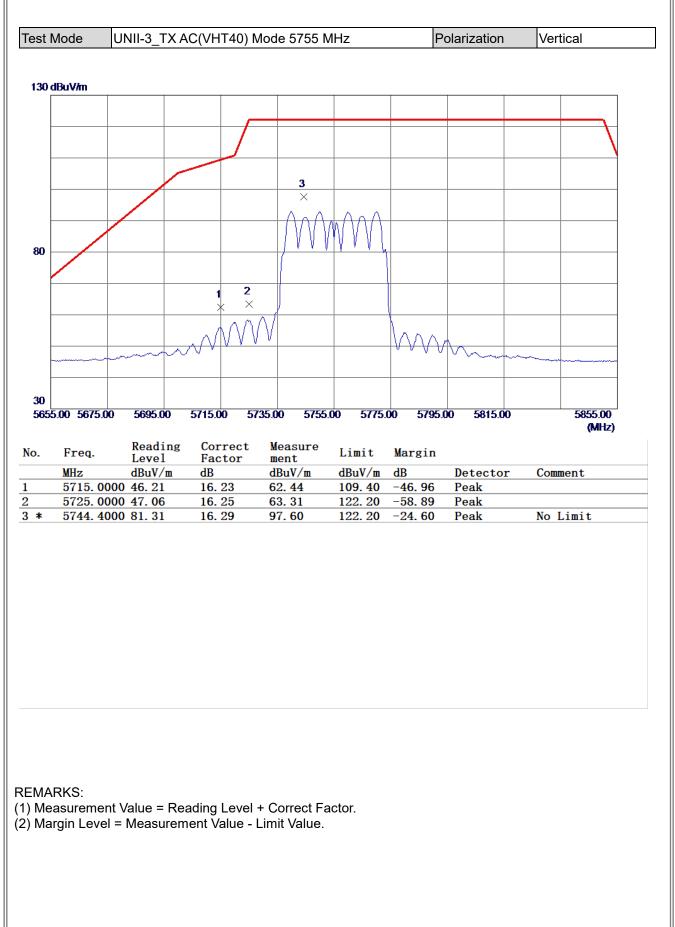




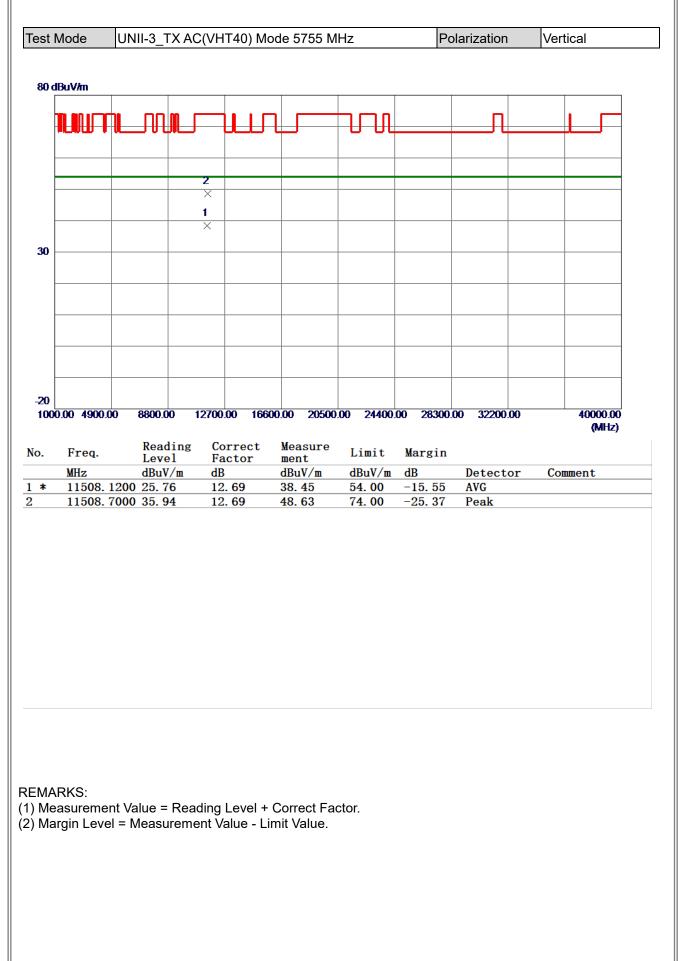




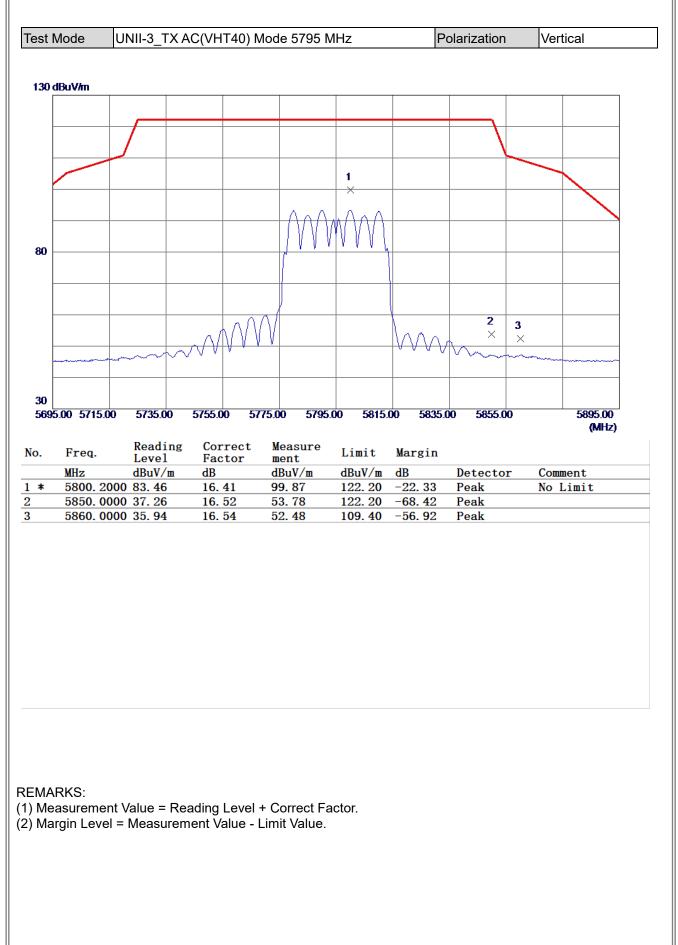




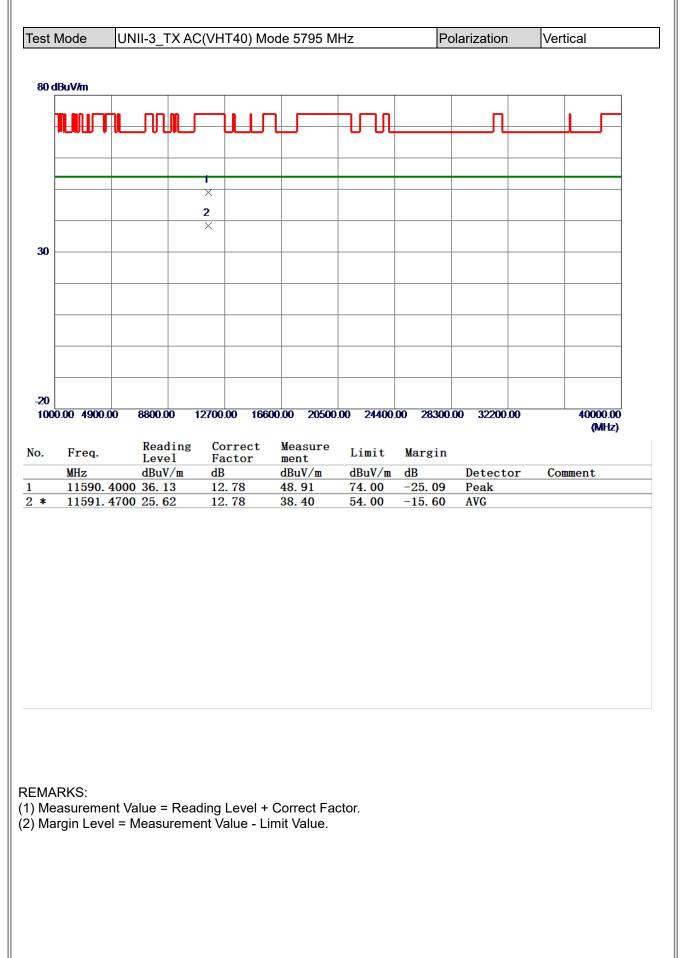




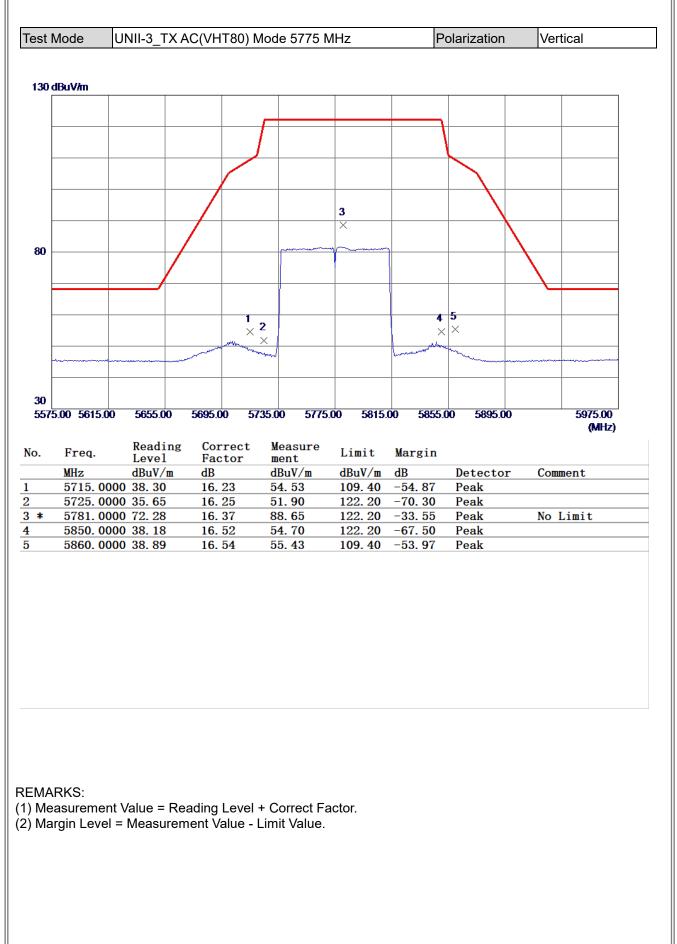








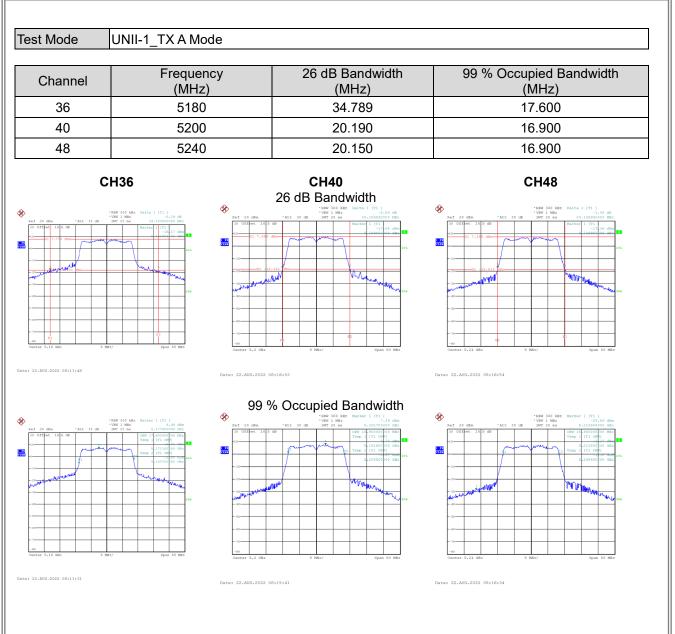






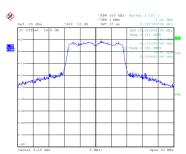
APPENDIX E - BANDWIDTH







Test Mode UNII-1_TX AC(VHT20) Mode Frequency 26 dB Bandwidth 99 % Occupied Bandwidth Channel (MHz) (MHz) (MHz) 36 5180 25.189 18.000 40 5200 21.498 17.800 48 5240 21.590 17.800 **CH36 CH40 CH48** 26 dB Bandwidth 8 8 **%** ·RBW 300 k ·VBW 1 MHz 1 PK 1 91 1 PR 444 ha. h Date: 22.AUG.2022 08:31:4 Date: 22.AUG.2022 08:32:38 Date: 22.AUG.2022 08:33: 99 % Occupied Bandwidth

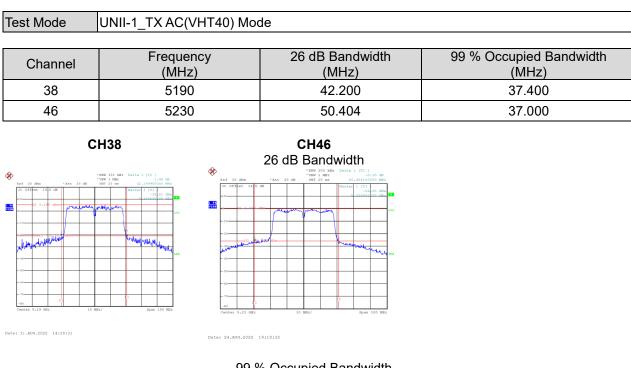


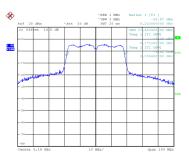
Date: 22.AUG.2022 08:31:20

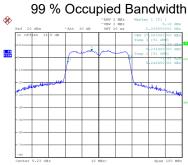
Date: 22.AUG.2022 08:33:05

Date: 22.AUG.2022 08:32:15









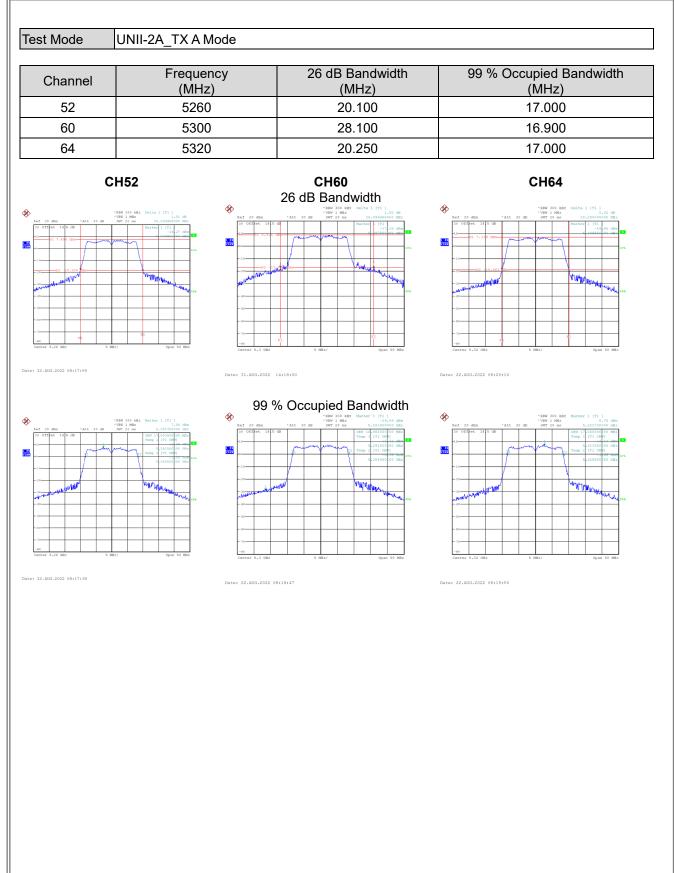
Date: 24.AUG.2022 19:18:09

Date: 24.AUG.2022 19:19:08



Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)
42	5210	196.000	97.200
42	met 10 10 10 10		97.200



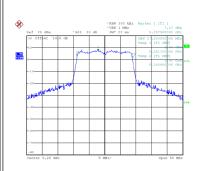




%

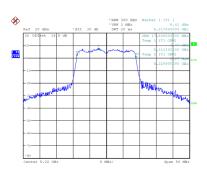
1 PR

Test Mode UNII-2A_TX AC(VHT20) Mode Frequency 26 dB Bandwidth 99 % Occupied Bandwidth Channel (MHz) (MHz) (MHz) 52 5260 20.790 17.800 5300 20.399 17.800 60 64 5320 20.400 17.800 CH52 CH60 CH64 26 dB Bandwidth Ø Ø RBW ·RBW 300 k ·VBW 1 MHz 1 PK 1 91 phing have đ WW Date: 22.AUG.2022 08:34:5 Date: 22.AUG.2022 08:35:48 Date: 22.AUG.2022 08:37:09



Date: 22.AUG.2022 08:34:32

99 % Occupied Bandwidth Ì 1 PR W



Date: 22.AUG.2022 08:36:45

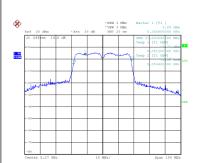
Date: 22.AUG.2022 08:35:27

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Test Mode UNII-2A_TX AC(VHT40) Mode Frequency 26 dB Bandwidth 99 % Occupied Bandwidth Channel (MHz) (MHz) (MHz) 54 5270 51.900 37.200 62 5310 40.386 37.400 CH54 CH62 26 dB Bandwidth 8 * • RBW 300 k • VBW 1 MHz 1 PR VIEW 1 PR VIEW MA M.A huddalla Date: 31.AUG.2022 14:33:34

Date: 31.AUG.2022 14:31:46



99 % Occupied Bandwidth Ø 1 PR VIEW Whender

Date: 24.AUG.2022 19:19:42

Date: 24.AUG.2022 19:20:36



Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)
58	5290	191.198	98.000
	Image: Application of the state of		
		2 17:27:23 % Occupied Bandwidth **********************************	
	Ref 20 dBm	4 5 cm 0 cm 94,000000 cm Trep 1 (71 cm) Trep 1 (71 cm) 5 cm 0 cm 7 cm 1 (71 cm) 5 cm 0 cm 7 cm 2 (71 cm) 7 cm 2 (71 cm)	
	-10		
	+ 43	Image: Section of the sectio	
	Date: 24.AUG.202		



Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)
100	5500	20.150	16.900
116	5580	24.350	17.000
140	5700	20.589	17.000
CH1(DO	CH116 26 dB Bandwidth	*## 20 cms *Att 30 cm * Mark 30 kms feats [1] ************************************
	Улики 1. (17) 4 52 (17) 1 <td>-1:13:30 -1:13:30</td> <td>1 1</td>	-1:13:30 -1:13:30	1 1
.2022 08:21:32	Date: 22.AUG.2022	08:22:46	Date: 22.AUG.2022 08:24:00
Image: Window Control Party 2 Party 2 Party 2 Party 2 Party 2 Image: Party 2 Party 2 Party 2 Party 2 Party 2 Party 2 Image: Party 2 Party 2 Party 2 Party 2 Party 2 Party 2 Image: Party 2 Party 2 Party 2 Party 2 Party 2 Party 2 Image: Party 2 Party 2 Party 2 Party 2 Party 2 Party 2 Image: Party 2 Party 2 Party 2 Party 2 Party 2 Party 2	<pre>hat hat is in the intervention of the int</pre>		Pint Pint Pint Pint Pint Pint Pint Pint



Test Mode UNII-2C_TX AC(VHT20) Mode Frequency 26 dB Bandwidth 99 % Occupied Bandwidth Channel (MHz) (MHz) (MHz) 100 5500 22.550 17.800 5580 25.788 17.900 116 140 5700 25.850 17.900 CH100 CH116 CH140 26 dB Bandwidth 8 Ø **%** • RBW 300 • VBW 1 MH 1 99 1 91 1 PR whyte w Date: 22.AUG.2022 08:37:54 Date: 22.AUG.2022 08:38:40 Date: 22.AUG.2022 08:39:26 99 % Occupied Bandwidth Ì Ì Þ 1 PR 1 PR 1 PR Date: 22.AUG.2022 08:37:34 Date: 22.AUG.2022 08:38:20 Date: 22.AUG.2022 08:39:06



Channel	Frequency (MHz)	26 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)
102	5510	42.800	36.800
110	5550	50.398	37.200
134	5670	53.590	37.000
CI	H102	CH110 26 dB Bandwidth	CH134 ************************************
5.53 GE 19:21:57	Center		Image: Control of the contro
		99 % Occupied Bandwidth	Date: 24.AU0.2022 19:24:07
3 d8m →Att 30 d3		99 % Occupied Bandwidth	*284 1 M8: Marker 1 [T1] *784 2 Marker 3 [T1] *784 2 Marker -2-8-29 das 24 2 Odds *Att 3 0 db 397 20 as 5.42000000 dbs 26 Offset 14[6 db] [as 27]0000000 dbs
0 dBa *Att 16 dB	1980 1982 Notion 1 [71] 1980 1982 Notion 1 [71] 1987 2980 No. 1.1100000 No. 107 007 1970 1980 No. 1.1100000 No. 177 007 1990 1990 1990 1990 1990 1990 1990 1990	99 % Occupied Bandwidth	*250 1 105 Market 1 [[1]] -760 3 205 -261.39 000 Set 20 000 *Att 30 00 207 2 50 5.0200000 002
- 245 30 40 - 141 5 40 	7800 1 HGs Marker 1 [71.] Fef 23 7810 2 HGs 6.11 Fef 23 7810 2 HGs 6.11 Fef 23 1 007 24 0000000 HG 1 007 101	99 % Occupied Bandwidth	*2007 1.002 * Narker 1 [71.] *2007 * 2000 * *2007 2.000 * 2007 2.000 *4.5 20 000 * *4.5 20 00 207 2.00 * 2007 2.000 * 2007 2.000 *4.5 20 000 * 10 00 207 2.00 * 2007 2.0000 * 2007 2.000 * 2007 2.000 * 2007 2.000 * 2007 2.000 * 2007 2.000 * 2007 2.000 * 2007 2.000 * 2007 2.000 * 2007 2.000 * 2007 2.000 * 2007 2.0000 * 2007 2.0000 * 2007 2.0000 * 2007 2.0000 * 2007 2.0000 * 2007 2.0000 * 2007 2.0000 * 2007 2.0000* 2.0000 * 2007 2.0000 * 2007 2.0000 * 2007 2.0000 * 2007
0 dBm *Att 30 dB	1980 1982 Notion 1 [71] 1980 1980 Notion 1 [71] 1980 Notion 1 [7	99 % Occupied Bandwidth	*384 1 M8: Marker 1 [1]] *282 20 dbm * Act 30 db apr 2 8 as 5,20000000 db apr 2 8 as 5,2000000 db apr 2 8 as 5,2000000 db apr 2 8 as 5,2000000 db apr 2 8 as 5,20000000 db apr 2 8 as 5,200000000 db apr 2 8 as 5,200000000 db apr 2 8 as 5,2000000000000000000000000000000000000
0 dBm *Att 30 dB	YMM 1 MB2 Nucles 1 [71.] Prima YMM 3 MB3 6.13 dbs Prima YMM 3 MB3 6.13 dbs Prima YMM 3 MB3 101.01000 H M Prima YMM 3 MB3 101.01000 H M Prima YMM 3 MB3 101.0100 H M Prima	99 % Occupied Bandwidth	*990 1 900: Nather 1 [17] 54.33 000 7407 2 900: Sec. 5-33 000 740 0 000 - 200 0 000 740 0 000 - 200 0000 740 0 000
0 dBm *Att 30 dB	YMM 1 MB2 Nucles 1 [71.] Prima YMM 3 MB3 6.13 dbs Prima YMM 3 MB3 6.13 dbs Prima YMM 3 MB3 101.01000 H M Prima YMM 3 MB3 101.01000 H M Prima YMM 3 MB3 101.0100 H M Prima	99 % Occupied Bandwidth	*990 1 900: Nather 1 [17] 54.33 000 7407 2 900: Sec. 5-33 000 740 0 000 - 200 0 000 740 0 000 - 200 0000 740 0 000
	THEME INCL. Number 1 [T1] Image: Section 1 (T1) Image: Sectio	99 % Occupied Bandwidth	Control 1 (15 cm - 1 (11)
- 2405 - 310 - 40 - 404 - 14 5 - 40 - 404 - 40	7380 5 1052 Nuclear 1 [71] 107 2 3 20 C.11400001 000 109 2 3 20 C.1140001 000 109 2 20 C.1140001 000 109 2 20 C.1140001 000 109 2 20 C.1140001	99 % Occupied Bandwidth	*990 1 900: Nather 1 [17] 54.33 000 7407 2 900: Sec. 5-33 000 740 0 000 - 200 0 000 740 0 000 - 200 0000 740 0 000
- 2405 - 310 - 40 - 404 - 14 5 - 40 - 404 - 40	TRUE ING. Note: 1 (1) Note: 1		*2007 1 MB Marker 1 [1] -2-3 -3-3
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