

Product Name: UC Phone	Report No: FCC022022-5527RF2
Product Model: CP-8832	Security Classification: Open
Version: V1.0	Total Page:195

TIRT Testing Report



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Stone Tang	Randy LV	Daniel Chen	Shenzhen So



FCC Radio Test Report

FCC ID: LDK88322678

This report concerns: Original Grant

Project No. : 022022-5527

Equipment : UC Phone

Brand Name : Cisco

Test Model : CP-8832

Series Model : N/A

Applicant : Cisco Systems Inc

Address : 125 West Tasman Drive San Jose, CA 95134-1706 United States

Manufacturer : Cisco Systems Inc

Address : 125 West Tasman Drive San Jose, CA 95134-1706 United States

Factory 1 : Shenzhen Fulian Fugui Precision Industry Co., Ltd. Communication &

Network Solution Business Group

Address 1 : 3/F, D10 Building, F8d Area Foxconn Science and Technology Industrial

Park, East side of Min Qing Road, Longhua Street Longhua District,

Shenzhen Guangdong 518109 China

Factory 2 : Fuyu Precision Component Company Limited

Address 2 : Lot M1 and Lot F, Quang Chau Industrial Park, Van Trung Commune,

Viet Yen District, Bac Giang Province, 26171, Vietnam

Date of Receipt : 2022.06.24

Date of Test : 2022.06.25 ~ 2022.10.17

Issued Date : 2022.10.25 **Report Version** : V1.0

Test Sample : Engineering Sample No.: 20220624018684
Standard(s) : FCC CFR Title 47, Part 15, Subpart E

FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01

ANSI C63.10-2013

- The test result referred exclusively to the presented test model /sample.
- Without written approval of TIRT Inc. the test report shall not reproduced except in full.

Add: 101,3 # Factory Building, Gongjin Electronics Shatin Community, Kengzi Street, Pingshan District, Shenzhen, China

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Table of Contents	Page
REPORT ISSUED HISTORY	6
1 . SUMMARY OF TEST RESULTS	7
1.1 TEST FACILITY	8
1.2 MEASUREMENT UNCERTAINTY	8
1.3 TEST ENVIRONMENT CONDITIONS	8
2 . GENERAL INFORMATION	9
2.1 GENERAL DESCRIPTION OF EUT	9
2.2 TEST MODES	12
2.3 PARAMETERS OF TEST SOFTWARE	16
2.4 DUTY CYCLE	18
2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	20
2.6 SUPPORT UNITS	20
3 . AC POWER LINE CONDUCTED EMISSIONS	21
3.1 LIMIT	21
3.2 TEST PROCEDURE	21
3.3 DEVIATION FROM TEST STANDARD	21
3.4 TEST SETUP	22
3.5 EUT OPERATION CONDITIONS	22
3.6 TEST RESULTS	22
4 . RADIATED EMISSIONS	23
4.1 LIMIT	23
4.2 TEST PROCEDURE	24
4.3 DEVIATION FROM TEST STANDARD	25
4.4 TEST SETUP	25
4.5 EUT OPERATION CONDITIONS	26
4.6 TEST RESULTS - 9 KHZ TO 30 MHZ	26
4.7 TEST RESULTS - 30 MHZ TO 1000 MHZ	26
4.8 TEST RESULTS - ABOVE 1000 MHZ	26
5 . BANDWIDTH	27
5.1 LIMIT	27
5.2 TEST PROCEDURE	27
5.3 DEVIATION FROM STANDARD	27
5.4 TEST SETUP	28



Table of Contents	Page
5.5 EUT OPERATION CONDITIONS	28
5.6 TEST RESULTS	28
6 . MAXIMUM OUTPUT POWER	29
6.1 LIMIT	29
6.2 TEST PROCEDURE	29
6.3 DEVIATION FROM STANDARD	29
6.4 TEST SETUP	29
6.5 EUT OPERATION CONDITIONS	29
6.6 TEST RESULTS	29
7 . POWER SPECTRAL DENSITY	30
7.1 LIMIT	30
7.2 TEST PROCEDURE	30
7.3 DEVIATION FROM STANDARD	30
7.4 TEST SETUP	31
7.5 EUT OPERATION CONDITIONS	31
7.6 TEST RESULTS	31
8 . FREQUENCY STABILITY	32
8.1 LIMIT	32
8.2 TEST PROCEDURE	32
8.3 DEVIATION FROM STANDARD	32
8.4 TEST SETUP	32
8.5 EUT OPERATION CONDITIONS	32
8.6 TEST RESULTS	32
9 . MEASUREMENT INSTRUMENTS LIST	33
10 . EUT TEST PHOTOS	34
APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS	38
APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ	41
APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ	42
APPENDIX D - RADIATED EMISSION - ABOVE 1000 MHZ	45
APPENDIX E - BANDWIDTH	160
APPENDIX F - MAXIMUM OUTPUT POWER	177
APPENDIX G - POWER SPECTRAL DENSITY	182



Table of Contents	Page
APPENDIX H - FREQUENCY STABILITY	191





REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
FCC022022-5527RF2	V1.0	Original Report.	2022.10.25	Valid



Report No.: FCC022022-5527RF2

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC CFR Title 47, Part 15, Subpart E						
Standard(s) Section			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)		

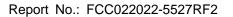
Note:

(1)	"N/A"	denotes	test is	not	applicab	le in	this	test r	eport
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- (2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.
- 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.

transmitting from remote device and verify whether it shall resend or discontinue trans
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

Company:	Beijing TIRT Technology Service Co.,Ltd Shenzhen
Address:	101, 3 # Factory Building, Gongjin Electronics Shatin Community, Kengzi Street, Pingshan District, Shenzhen, China
CNAS Registration Number:	CNAS L14158
A2LA Registration Number:	6049.01
FCC Accredited Lab. Designation Number:	CN1309
FCC Test Firm Registration Number:	825524
Telephone:	+86-0755-27087573

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))

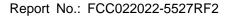
The TIRT measurement uncertainty as below table:

Uncertainty	
Parameter	Uncertainty
Occupied Channel Bandwidth	±142.12 KHz
RF power conducted	±0.74 dB
RF power radiated	±3.25dB
Spurious emissions, conducted	±1.78dB
Spurious emissions, radiated (30MHz~1GHz)	±4.6dB
Spurious emissions, radiated (1GHz ~ 18GHz)	±4.9dB
Conduction Emissions(150kHz~30MHz)	±3.1 dB
Humidity	±4.6%
Temperature	±0.7°C
Time	±1.25%

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	24°C	51%	AC 120V/60Hz	Stone Tang
Radiated Emissions-9kHz to 30MHz	25°C	55%	PoE 48V	Stone Tang
Radiated Emissions-30MHz to 1000MHz	24°C	59%	PoE 48V	Stone Tang
Radiated Emissions-Above 1000 MHz	25°C	55%	PoE 48V	Stone Tang
Bandwidth	23°C - 24°C	58% - 61%	PoE 12V	Stone Tang
Maximum Output Power	23.7°C - 24.4°C	52.4% - 63.4%	PoE 12V	Stone Tang
Power Spectral Density	23°C - 24°C	58% - 61%	PoE 12V	Stone Tang
Frequency Stability	Normal & Extreme	58% - 61%	Normal & Extreme	Stone Tang





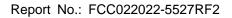
2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	UC Phone
Brand Name	Cisco
Test Model	CP-8832
Series Model	N/A
Model Difference(s)	N/A
Power Source	DC Voltage supplied from PoE Injector or AC adapter.
Power Rating	1# Model: CP-8832-POE I/P: 44V~55V === , 12.95W, 350mA O/P: 5V === 2A or 12V === 1A 2# Model: AQ18A-59CFA I/P: 100-240V~ 50-60Hz 0.5A O/P: 5V === 3.0A or 9V === 2.0A or 12V === 1.5A or 15V === 1.2A 3# Model: AN18V-59CFA I/P: 100-240V 0.5A 50-60Hz O/P: 5.0V === 3.0A or 9.0V === 2.0A or 12.0V === 1.5A or 15.0V === 1.2A 4# Model: AN18V-59CB I/P: 100-240V 50-60Hz 0.5A O/P: 5V === 3A or 9V === 2A or 12V === 1.5A 5# Model: AN18A-59CB I/P: 100-240V~ 50-60Hz 0.5A O/P: 5V === 3A or 9V === 2A or 12V === 1.5A
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 150 Mbps IEEE 802.11ac: up to 433.3 Mbps
Maximum Output Power_UNII-1	IEEE 802.11ac(VHT20): 20.19 dBm (0.1045 W)
Maximum Output Power_UNII-2A	IEEE 802.11a: 20.56 dBm (0.1138 W)
Maximum Output Power_UNII-2C	IEEE 802.11ac(VHT40): 21.57 dBm (0.1435 W)
Maximum Output Power_UNII-3	IEEE 802.11ac(VHT20): 21.34 dBm (0.1361 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 802.11a IEEE 802.11n(HT20) IEEE 802.11ac(VHT20)		IEEE 802.11n(HT40) IEEE 802.11ac(VHT40)		IEEE 802.11ac(VHT80)	
UNI	I-1	UN	II-1	UNII-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 802.1	IEEE 802.11a IEEE 802.11n(HT20) IEEE 802.11ac(VHT20)		IEEE 802.11n(HT40) IEEE 802.11ac(VHT40)		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)	
UNII	-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 802.11	1n(HT20)		11n(HT40) 1ac(VHT40)	IEEE 802.11	1ac(VHT80)
UNI	I-3	UN	II-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				

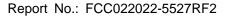


3. Antenna Specification:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1	SAA Shanghal Ampherol Almave	CI8226-15-000-R	PCB	IPEX	4.8

Note:

1) The antenna gain is provided by the manufacturer.





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 110 (UNII-2C)

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

AC power line conducted emissions test		
Final Test Mode	Description	
Mode 25	TX AC(VHT40) Mode Channel 110 (UNII-2C)	

Radiated Emissions Test - Below 1GHz		
Final Test Mode	Description	
Mode 25	TX AC(VHT40) Mode Channel 110 (UNII-2C)	



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)	



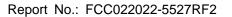
	Maximum Output Power Test
Final Test Mode	Description
Mode 1	TX A Mode Channel 36/40/48 (UNII-1)
Mode 2	TX N(HT20) Mode Channel 36/40/48 (UNII-1)
Mode 3	TX N(HT40) Mode Channel 38/46 (UNII-1)
Mode 4	TX AC(VHT20) Mode Channel 36/40/48 (UNII-1)
Mode 5	TX AC(VHT40) Mode Channel 38/46 (UNII-1)
Mode 6	TX 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)
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 110 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 case 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 AC power line conducted emissions and radiated emissions below 1 GHz test, all adapters had been pre-tested and in this report only recorded the worst case.
- (6) For radiated emission above 1 GHz of Harmonic test: The polarization of Vertical and Horizontal are evaluated, the worst case is Horizontal and recorded.





2.3 PARAMETERS OF TEST SOFTWARE

UNII-1			
Test Software Version		IPOP V4.1	
Frequency (MHz)	5180	5200	5240
IEEE 802.11a	55	80	70
IEEE 802.11n(HT20)	60	85	85
IEEE 802.11ac(VHT20)	60	85	85
Frequency (MHz)	5190	5230	
IEEE 802.11n(HT40)	60	65	
IEEE 802.11ac(VHT40)	60	65	
Frequency (MHz)	5210		
IEEE 802.11ac(VHT80)	58		

UNII-2A			
Test Software Version	IPOP V4.1		
Frequency (MHz)	5260	5300	5320
IEEE 802.11a	88	80	75
IEEE 802.11n(HT20)	87	86	73
IEEE 802.11ac(VHT20)	87	86	73
Frequency (MHz)	5270	5310	
IEEE 802.11n(HT40)	65	52	
IEEE 802.11ac(VHT40)	65	52	
Frequency (MHz)	5290		
IEEE 802.11ac(VHT80)	55		



UNII-2C			
Test Software Version		IPOP V4.1	
Frequency (MHz)	5500	5580	5700
IEEE 802.11a	68	80	84
IEEE 802.11n(HT20)	75	80	82
IEEE 802.11ac(VHT20)	75	80	82
Frequency (MHz)	5510	5550	5670
IEEE 802.11n(HT40)	65	84	84
IEEE 802.11ac(VHT40)	65	84	84
Frequency (MHz)	5530	5610	
IEEE 802.11ac(VHT80)	63	80	

UNII-3			
Test Software Version		IPOP V4.1	
Frequency (MHz)	5745	5785	5825
IEEE 802.11a	88	88	88
IEEE 802.11n(HT20)	90	90	90
IEEE 802.11ac(VHT20)	90	90	90
Frequency (MHz)	5755	5795	
IEEE 802.11n(HT40)	84	65	
IEEE 802.11ac(VHT40)	84	65	
Frequency (MHz)	5775		
IEEE 802.11ac(VHT80)	81		

Page 17 of 195



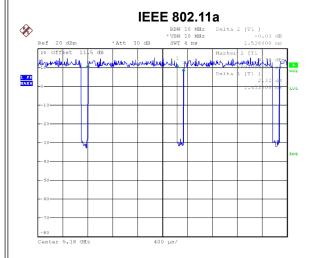
2.4 DUTY CYCLE

If duty cycle is ≥ 98 %, duty factor is not required.

If duty cycle is < 98 %, duty factor shall be considered.

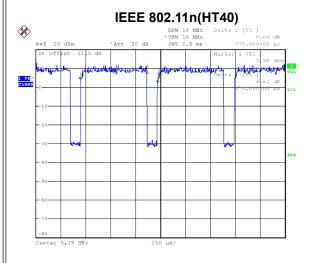
The output power = measured power + duty factor.

The power spectral density = measured power spectral density + duty factor.



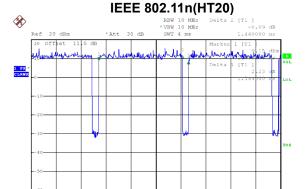
Date: 1.JUL.2022 12:32:32

Duty cycle = 1.432 ms / 1.536 ms = 93.23% Duty Factor = 10 log(1 / Duty cycle) = 0.30



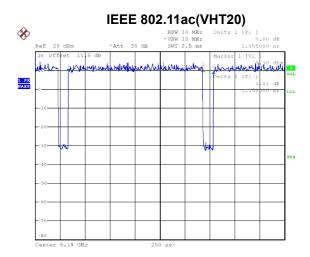
Date: 1.JUL.2022 12:42:30

Duty cycle = 0.670 ms / 0.775 ms = 86.45%Duty Factor = $10 \log(1 / \text{Duty cycle}) = 0.63$



Date: 1.JUL.2022 12:42:00

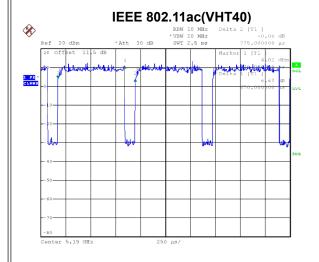
Duty cycle = 1.344 ms / 1.440 ms = 93.33% Duty Factor = 10 log(1 / Duty cycle) = 0.30



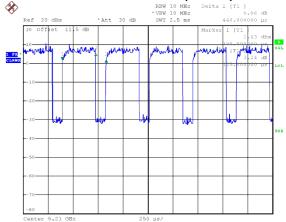
Date: 1.JUL.2022 12:36:25

Duty cycle = 1.350 ms / 1.455 ms = 92.78% Duty Factor = 10 log(1 / Duty cycle) = 0.33









Date: 1.JUL.2022 12:38:01

Duty cycle = 0.670 ms / 0.775 ms = 86.45%Duty Factor = $10 \log(1 / \text{Duty cycle}) = 0.63$ Date: 1.JUL.2022 12:38:44

Duty cycle = 0.335 ms / 0.440 ms = 76.14% Duty Factor = 10 log(1 / Duty cycle) = 1.18

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 698 Hz (Duty cycle < 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 744 Hz (Duty cycle < 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 1493 Hz (Duty cycle < 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 741 Hz (Duty cycle < 98%).

For IEEE 802.11ac(VHT40):

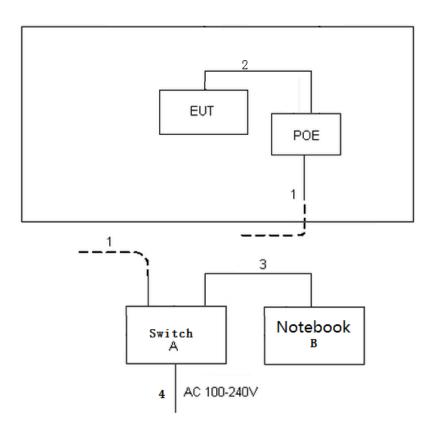
For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1493 Hz (Duty cycle < 98%).

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 2985 Hz (Duty cycle < 98%).



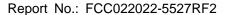
2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.6 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.
Α	Switch	Cisco Systems	C1000-16P-2G-L	N/A
В	Control PC	Lenovo	L450	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	RJ45 Cable	NO	NO	10m
2	DC Cable	NO	NO	1.8m
3	RJ45 Cable	NO	NO	1.5m
4	AC Cable	NO	NO	1.5m





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:

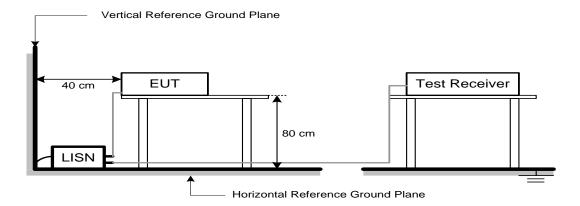
Receiver Parameter	Setting
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

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.



Report No.: FCC022022-5527RF2

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)

LIMITS OF DIVIDANTED 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:

$$E=rac{1000000\sqrt{30P}}{3}$$
 μ 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

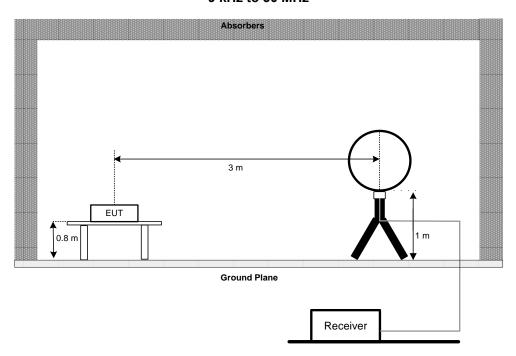


4.3 DEVIATION FROM TEST STANDARD

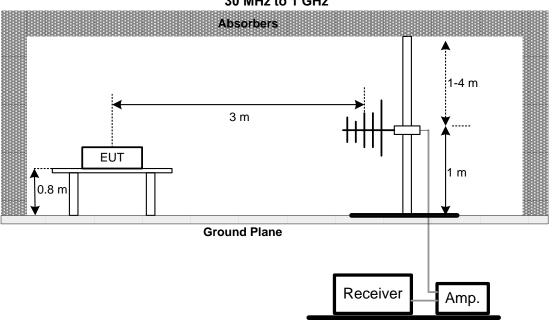
No deviation.

4.4 TEST SETUP

9 kHz to 30 MHz

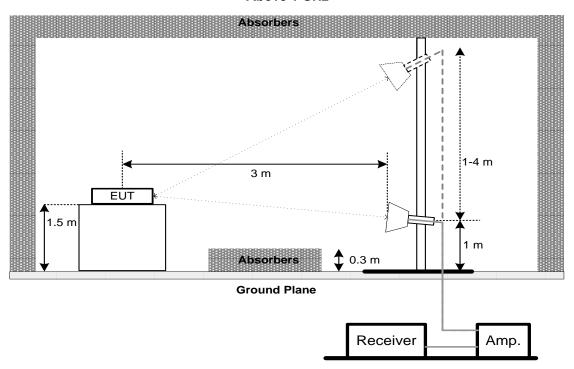


30 MHz to 1 GHz





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)	7(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

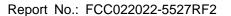


5.5 EUT OPERATION CONDITIONS

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)
		AP device: 1 Watt (30 dBm) Client device: 250 mW (23.98 dBm)	5150-5250
FCC 15.407(a)	Maximum Output Power	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.

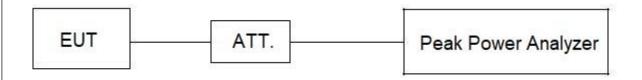
6.2 TEST PROCEDURE

- a. The EUT was directly connected to the peak power analyzer and antenna output port as show in the block diagram below.
- b. Test 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

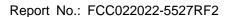


6.5 EUT OPERATION CONDITIONS

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)
		AP device: 17 dBm/MHz Client device: 11 dBm/MHz	5150-5250
FCC 15.407(a)	Power Spectral Density	11 dBm/MHz	5250-5350
		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 Frequency	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 Frequency	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:

- 1. 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.
- 2. 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 13 dB, and the final offset is 13 + 7 = 20 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:

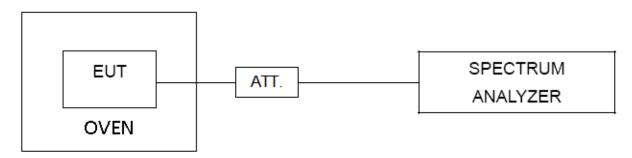
Setting
absence of modulation emissions bandwidth
Z
Z
łold

- 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

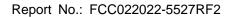


8.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.6 TEST RESULTS

Please refer to the APPENDIX H.





9. MEASUREMENT INSTRUMENTS LIST

No.	Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMI Receiver	Rohde&Schwarz	ESCI	1166.5950.03	2022/11/09
2	AMN	Rohde&Schwarz	ENV216	3560.6550.05	2022/11/09
3	AMN	Schwarzbeck	NSLK8127	#829	2022/11/09
4	ECSI RF IN RF Cable	Rohde&Schwarz	RP-X1	N/A	2022/11/09
5	ECSI RF IN RF Cable	Rohde&Schwarz	Sapre sm	N/A	2022/11/09
6	EMI Receiver	Rohde&Schwarz	ESR7	102013	2022/11/09
7	Spectrum analyzer	Rohde&Schwarz	FSV30	103741	2022/11/09
8	Spectrum analyzer	KEYSIGHT	N9010A-44	MY51440158	2022/11/09
9	Integral Antenna	Schwarzbeck	VULB 9163	VULB 9163-361	2022/11/20
10	Integral Antenna	Schwarzbeck	BBHA 9120D	BBHA 9120D 1201	2022/11/20
11	Integral Antenna	Schwarzbeck	BBHA 9170	9170#685	2022/11/20
12	Preamplifier	Schwarzbeck	BBV9745	#78	2022/11/09
13	Preamplifier	Schwarzbeck	BBV9721	9721-019	2022/11/09
14	Preamplifier	RF System/UK	TRLA-0101 80G50B	22062101	2022/07/20 2023/07/20
15	ECSI RF IN RF Cable	Rohde&Schwarz	AP-X1	N/A	2022/11/09
16	ECSI RF IN RF Cable	HAOXUN	Z-108	N/A	2022/11/09
17	RF Cable	ZDECL	ZT40-2.92J -2.92J-6M	18124358	2022/07/20 2023/07/20
18	Spectrum Analyzer	Agilent	N9010A	MY51440158	2022/11/09
19	Spectrum Analyzer	Agilent	N9010A	MY52221119	2022/11/09
20	EMI Receiver	Rohde&Schwarz	ESU	100184	2022/07/20 2023/07/20
21	Temp&Humidity Recorder	Anymetre	JR900	N/A	2022/11/03
22	Temp&Humidity Chamber	ETOMA	NTH1100- 30A	16080628	2022/11/03
23	Filter	STI	STI15-984 5	N/A	N/A
24	Filter	STI	5.1G	N/A	N/A
25	Filter	STI	STI15-984 5	N/A	N/A
26	Testing Software	EZ-EMC	TW-03A2	N/A	N/A

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

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

[&]quot;*" calibration period of equipment list is three year.



10. EUT TEST PHOTOS

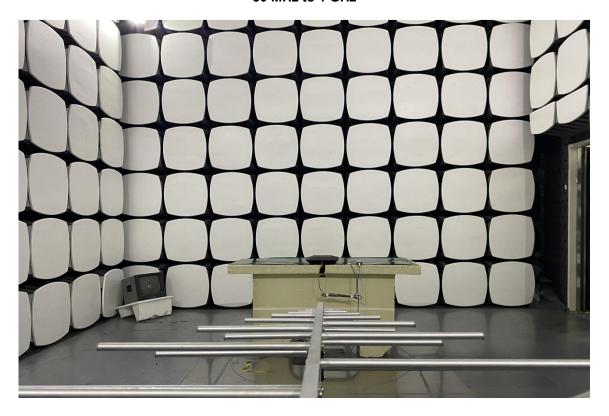
AC Power Line Conducted Emissions Test Photos

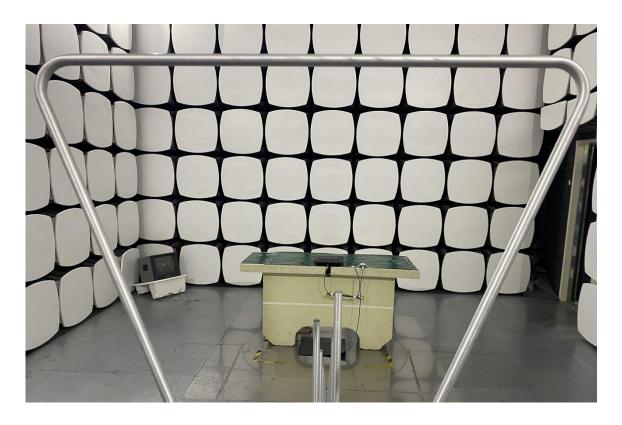




Radiated Emissions Test Photos

30 MHz to 1 GHz

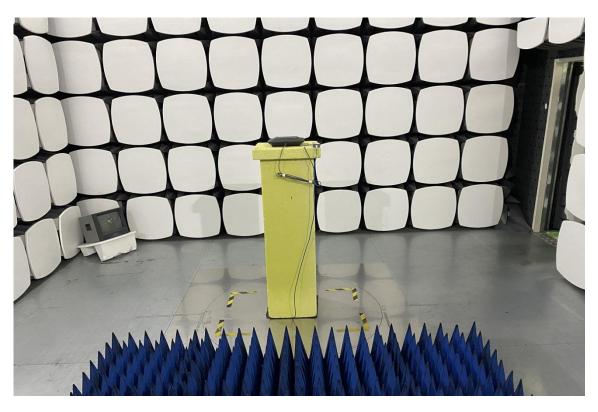


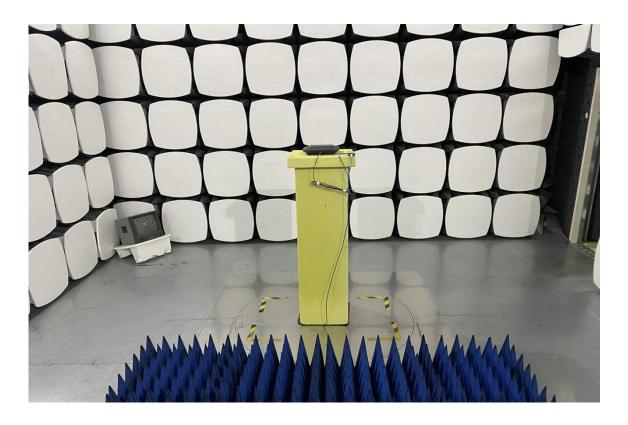




Radiated Emissions Test Photos

Above 1 GHz







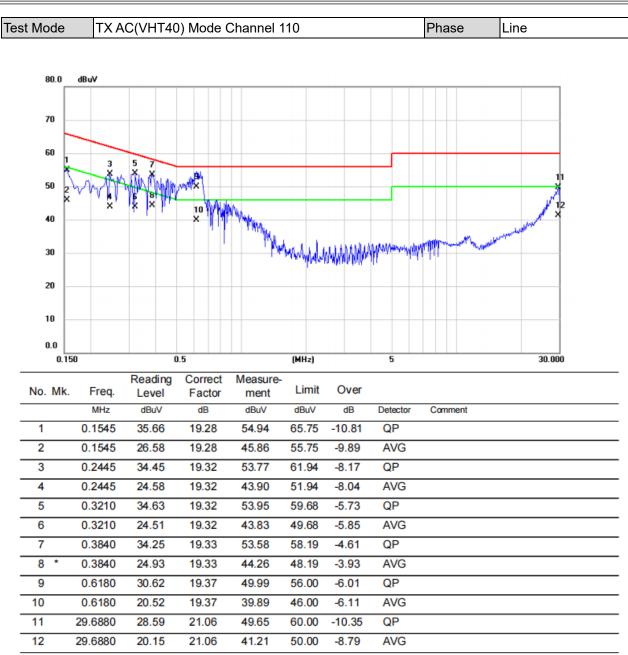
Conducted Test Photos





APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS





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



Test Mode TX AC(VHT40) Mode Channel 110 Phase Neutral 80.0 70 60 50 40 30 20 10 0.0 30.000 0.150 0.5 (MHz) 5 Reading Correct Measure-Freq. Limit Over No. Mk. Level Factor ment MHz dBuV dBuV dBuV dB Detector Comment 0.1545 32.55 19.48 52.03 65.75 -13.72 QP 2 0.1545 23.93 19.48 43.41 55.75 -12.34 AVG 3 47.62 QP 0.2535 28.14 19.48 61.64 -14.02 0.2535 19.87 19.48 39.35 -12.29 AVG 4 51.64 5 0.3435 29.09 19.50 48.59 59.12 -10.53 QP 6 0.3435 20.47 19.50 39.97 49.12 -9.15AVG QP 7 0.5280 26.62 19.58 46.20 56.00 -9.808 0.5280 18.62 19.58 38.20 46.00 -7.80 AVG 9 0.6180 29.41 19.60 49.01 56.00 -6.99 QP AVG 10 0.6180 20.32 19.60 39.92 46.00 -6.08 32.58 QP 11 29.5620 20.76 53.34 60.00 -6.66

REMARKS:

12

29.5620

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

23.60

20.76

44.36

50.00

-5.64

AVG

(3) The test result has included the cable loss.



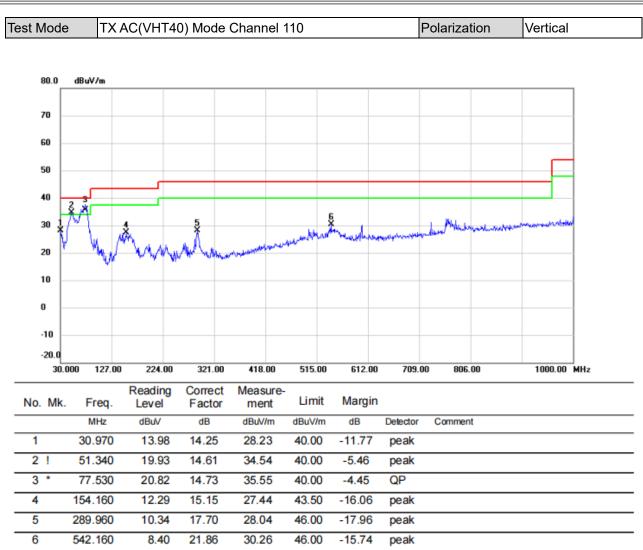
APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ

Radiated emission: 9KHz-30MHz
The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.
There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.



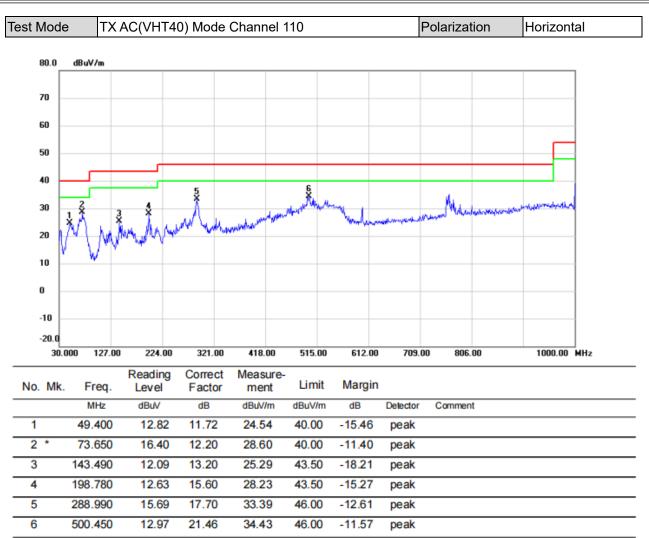
APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ





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



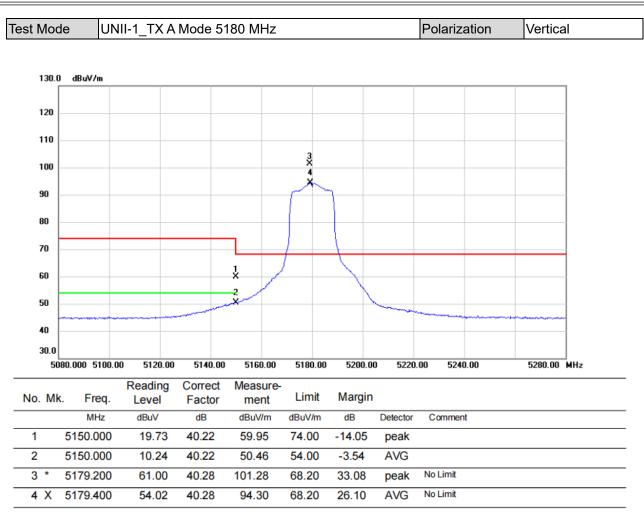


- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



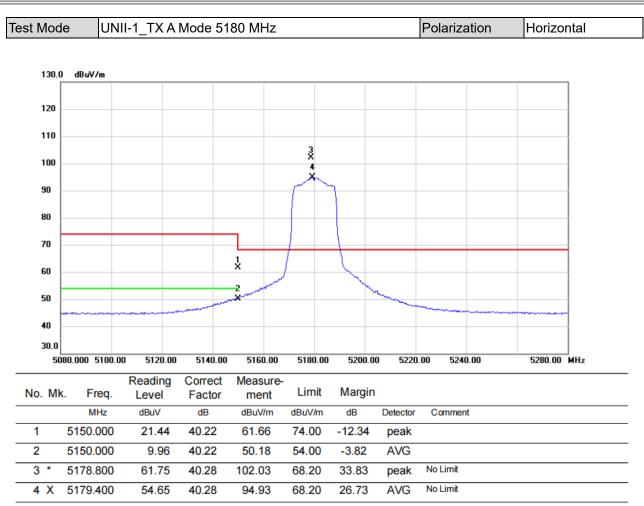
APPENDIX D - RADIATED EMISSION - ABOVE 1000 MHZ





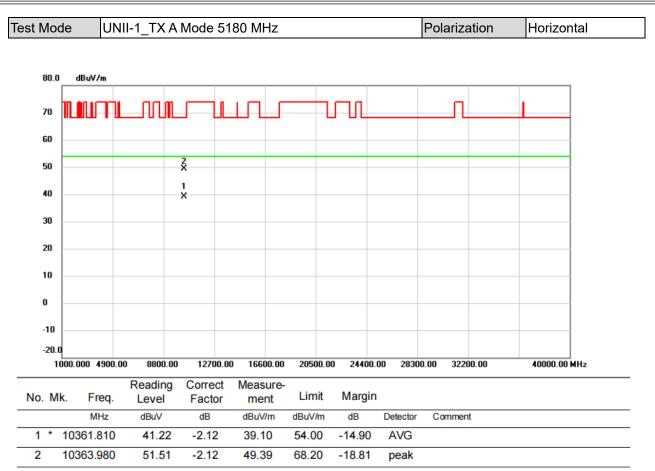
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





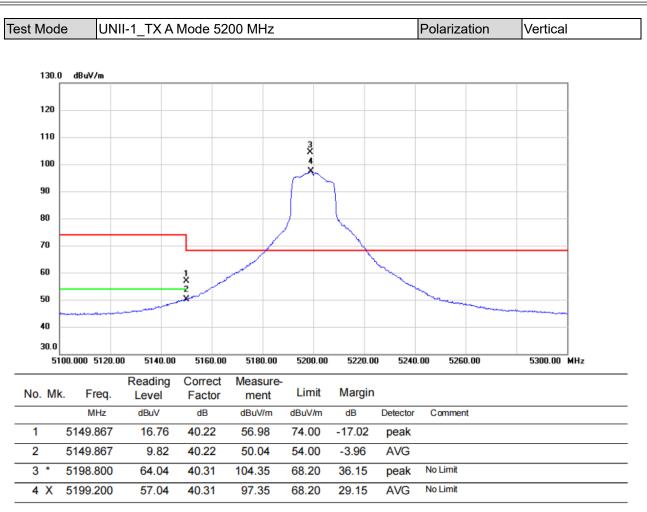
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





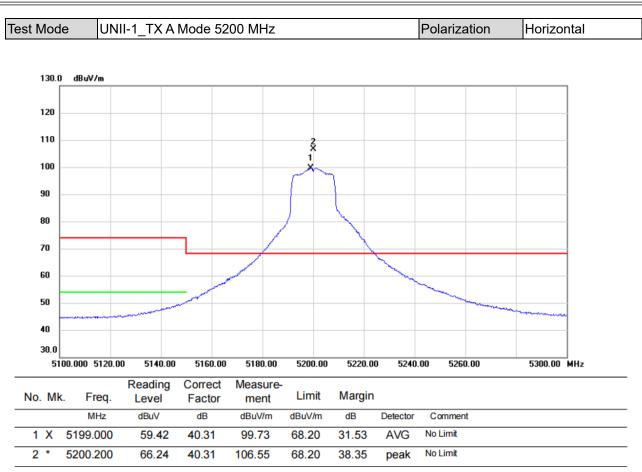
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





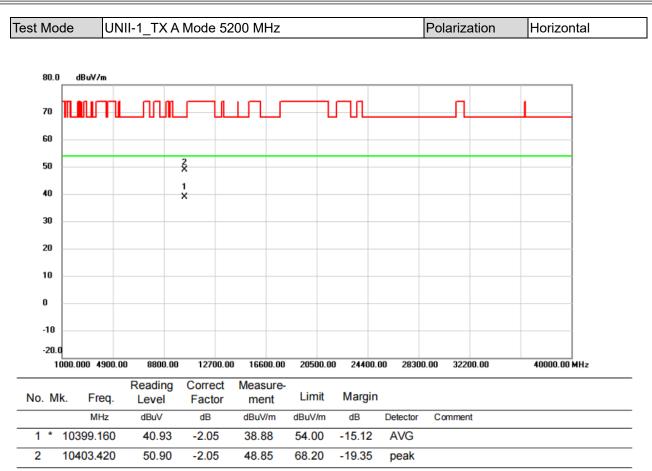
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





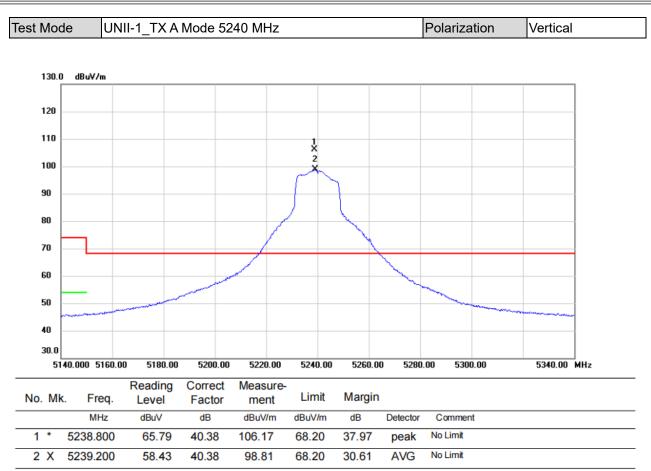
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





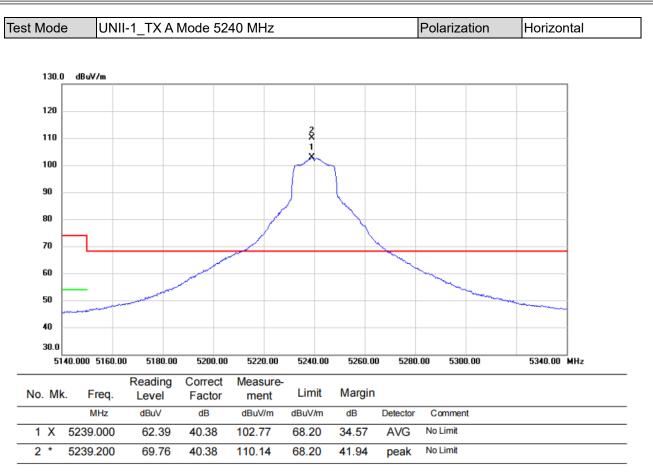
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





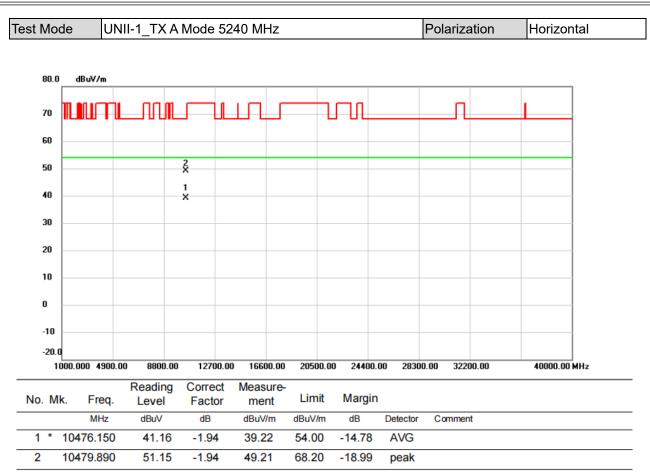
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





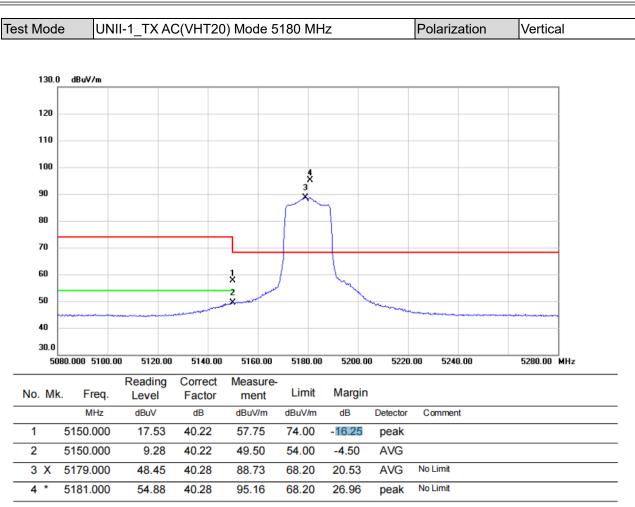
- (1) Measurement Value = Reading Level + Correct Factor.
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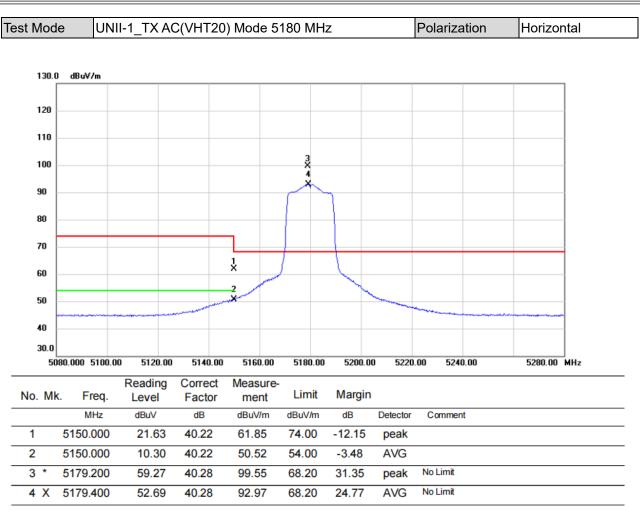
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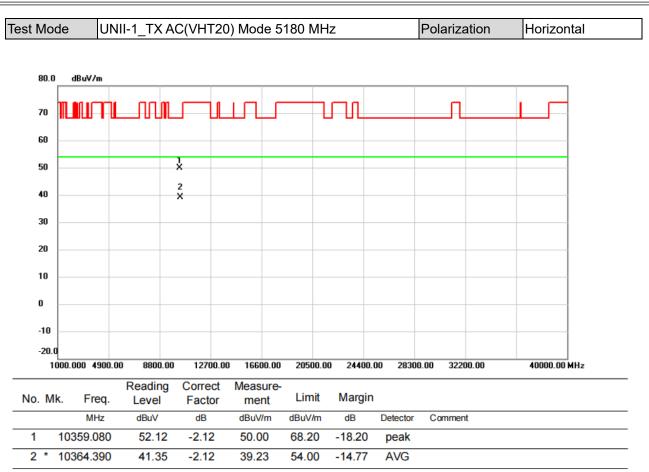
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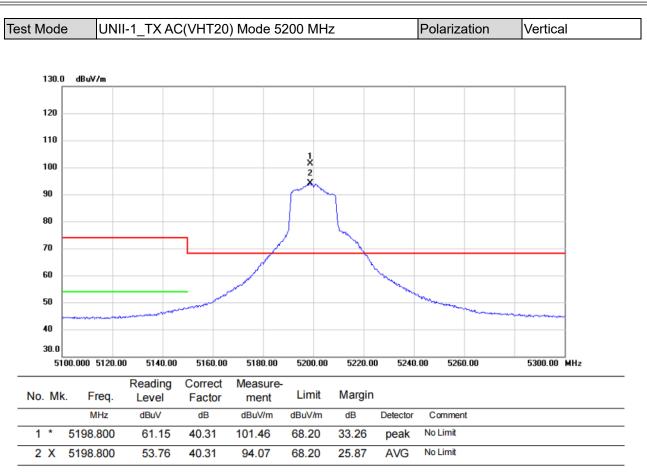
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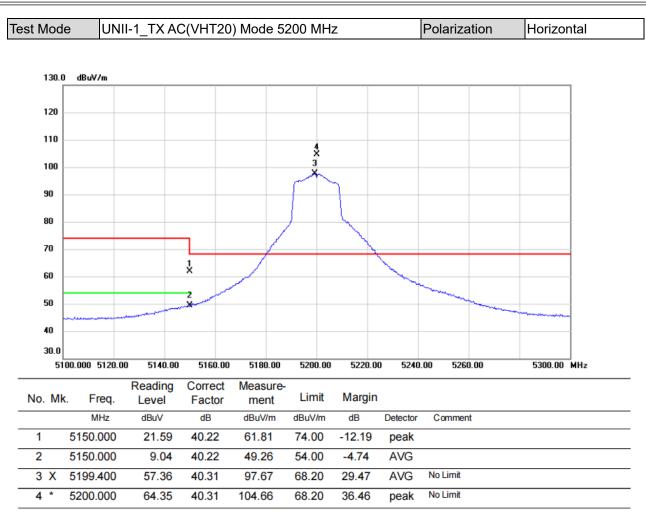
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





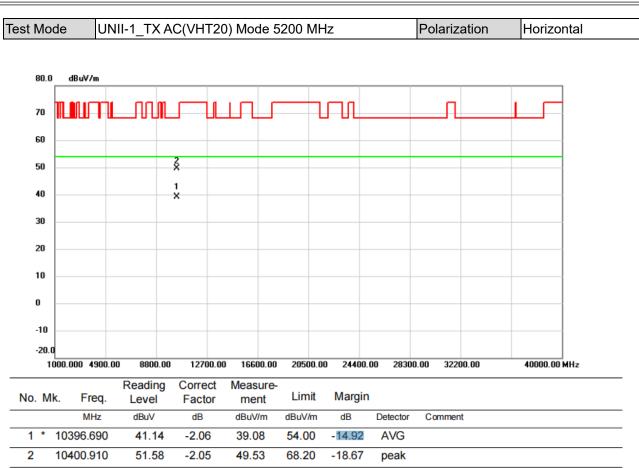
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- (2) Margin Level = Measurement Value Limit Value.





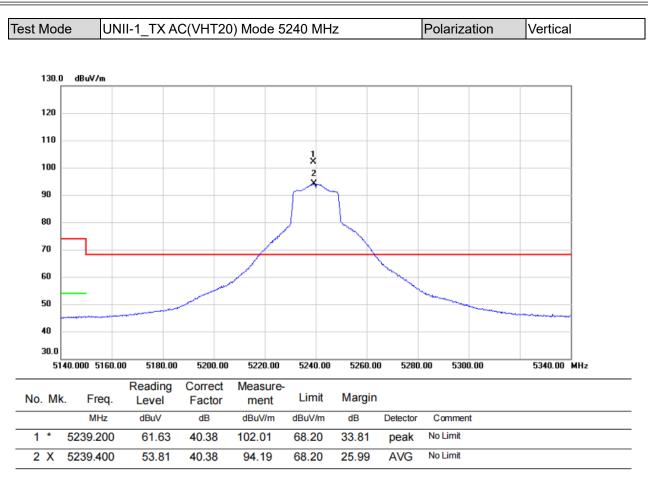
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- (2) Margin Level = Measurement Value Limit Value.





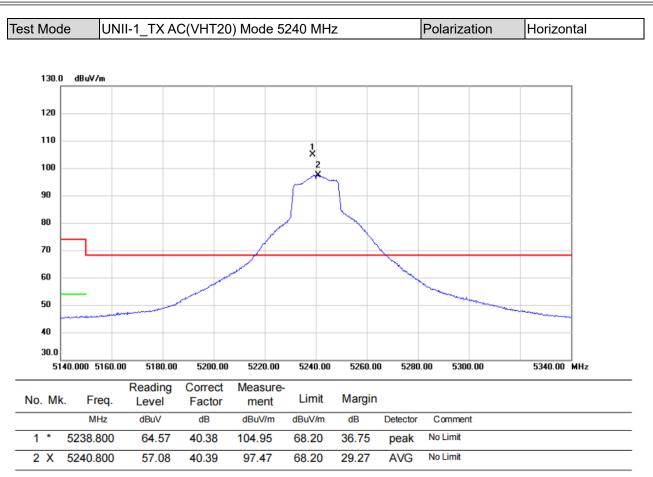
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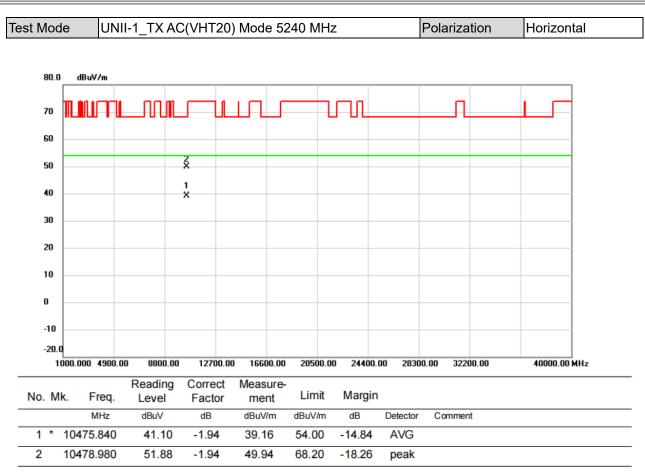
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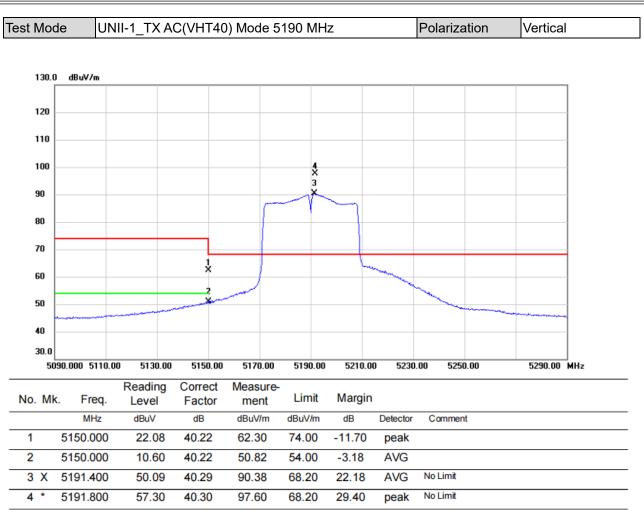
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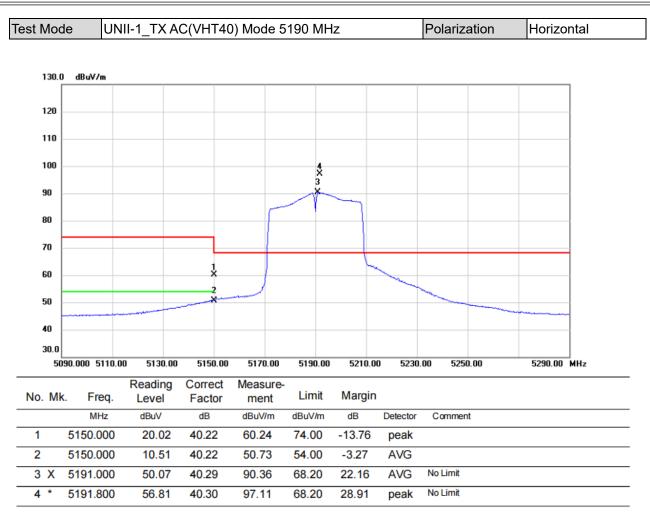
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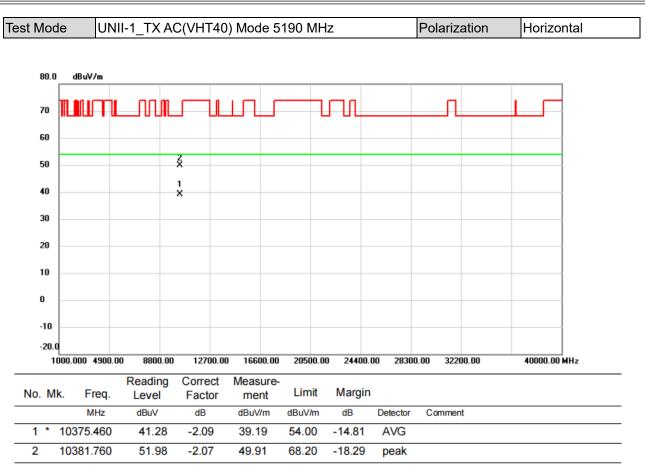
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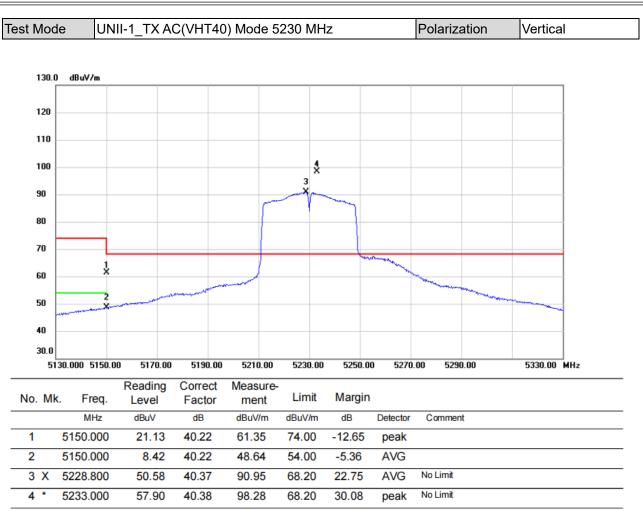
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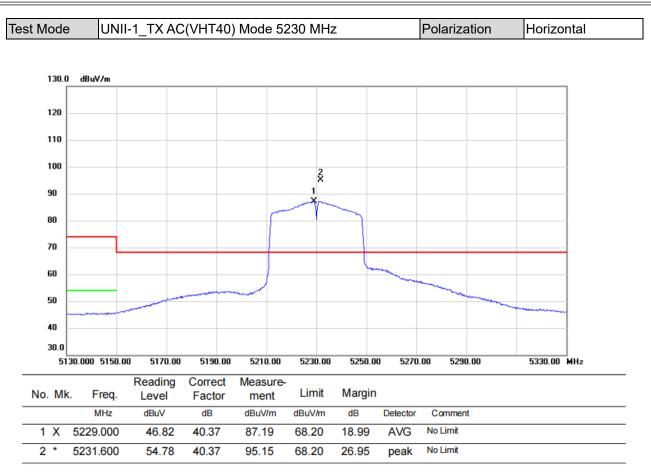
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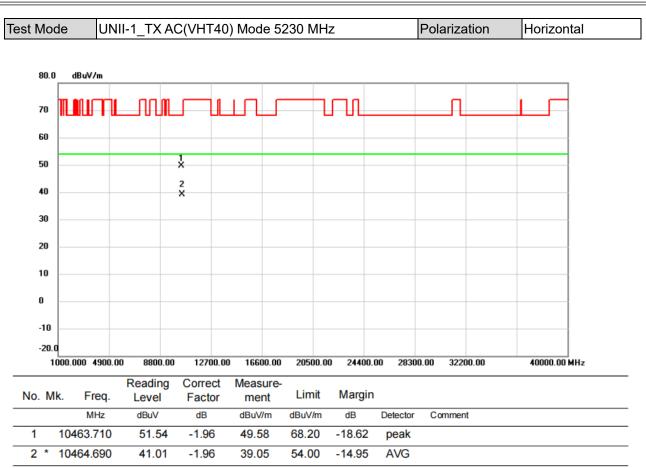
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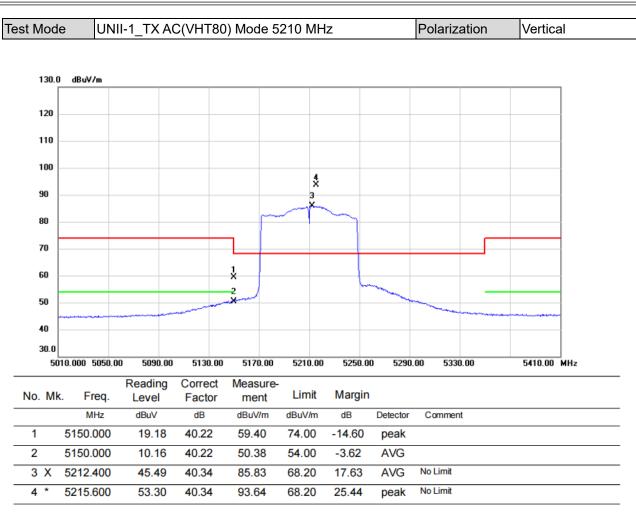
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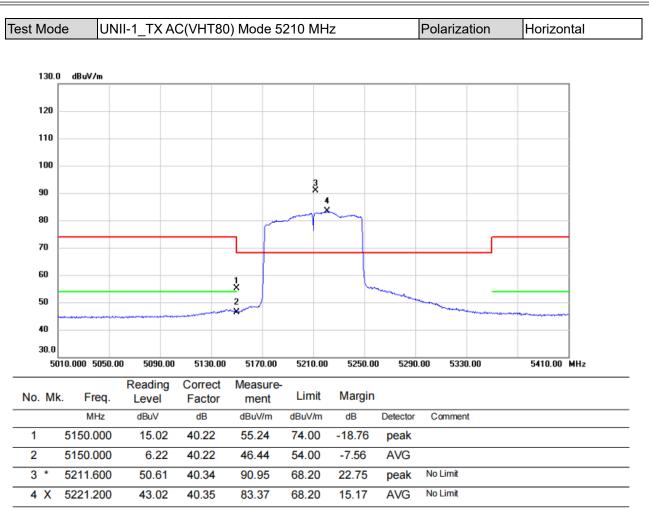
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





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

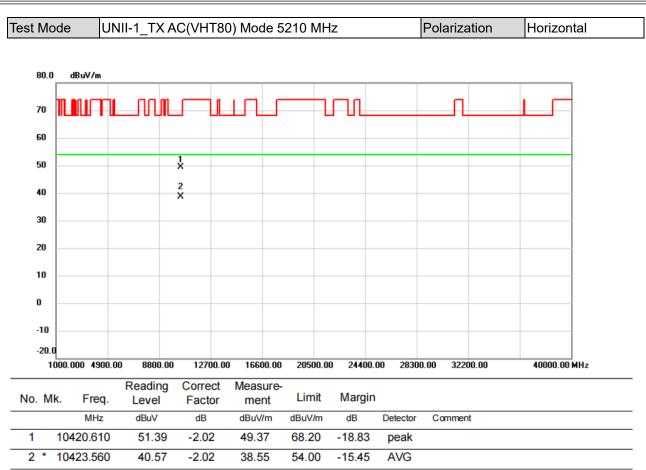




- (1) Measurement Value = Reading Level + Correct Factor.
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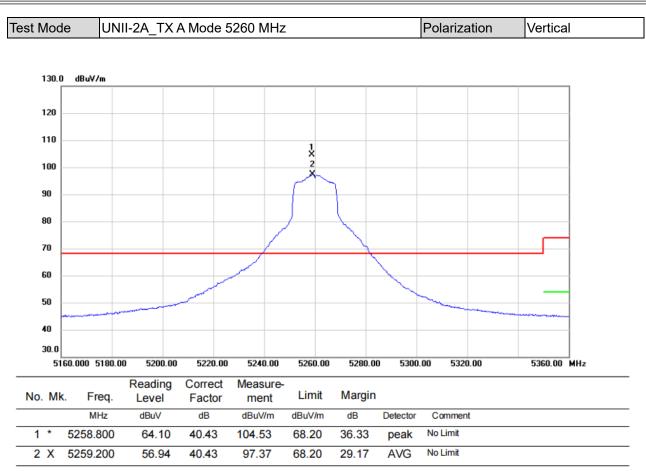
Page 71 of 195





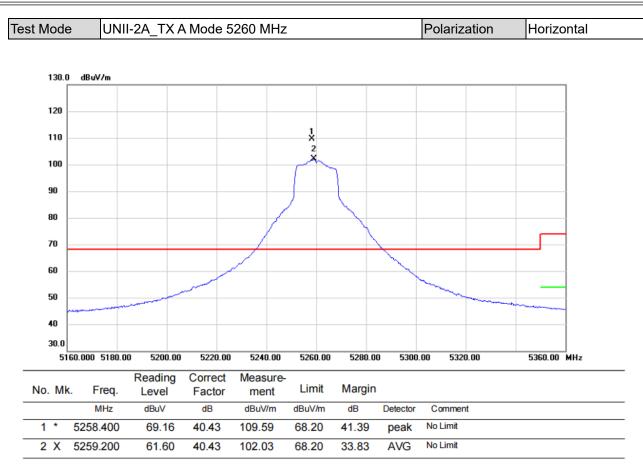
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





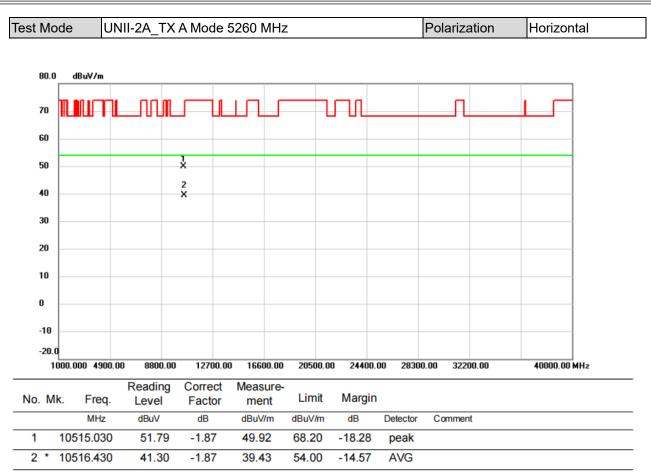
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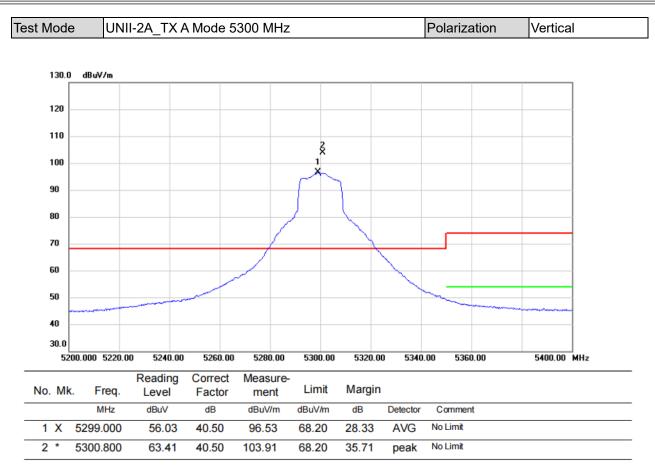
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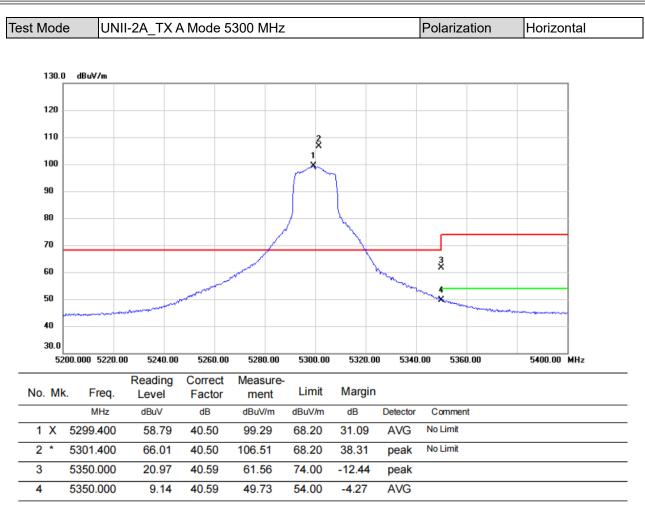
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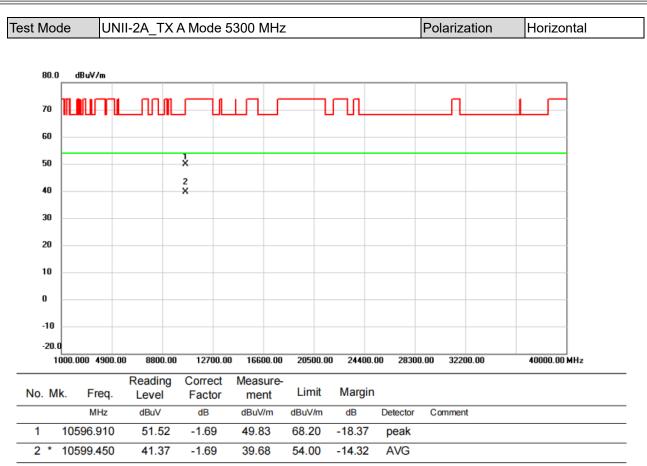
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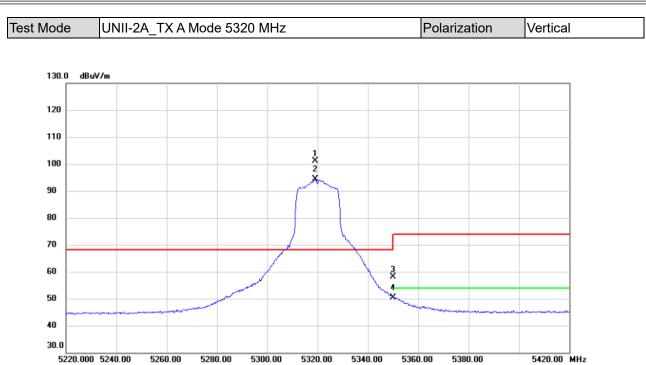
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





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

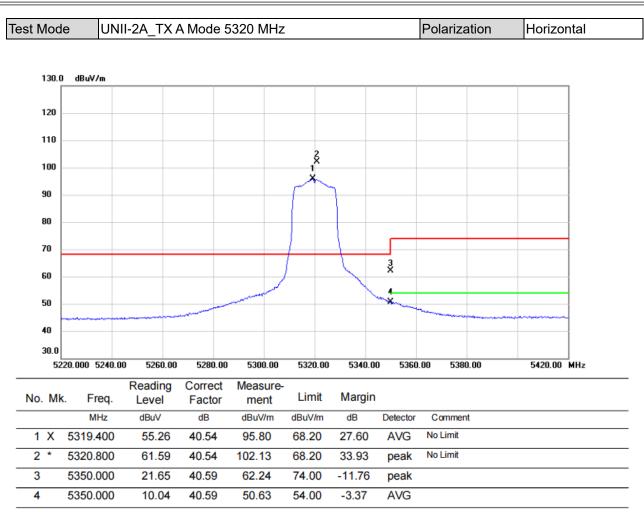




No. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin			
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
1 *	5319.000	60.70	40.54	101.24	68.20	33.04	peak	No Limit	
2 X	5319.200	53.85	40.54	94.39	68.20	26.19	AVG	No Limit	
3	5350.000	17.47	40.59	58.06	74.00	-15.94	peak		
4	5350.000	9.72	40.59	50.31	54.00	-3.69	AVG		

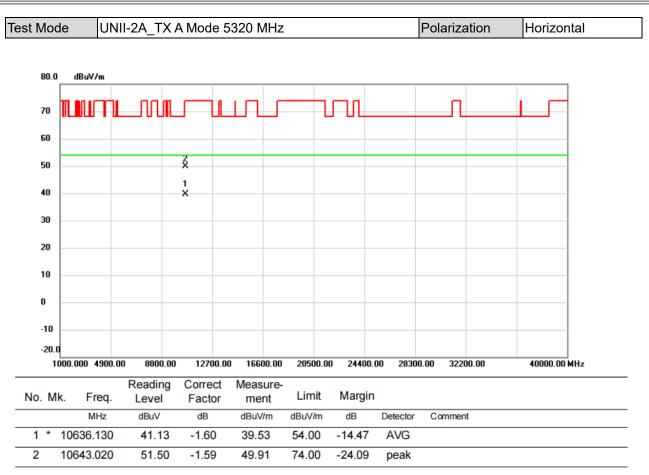
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





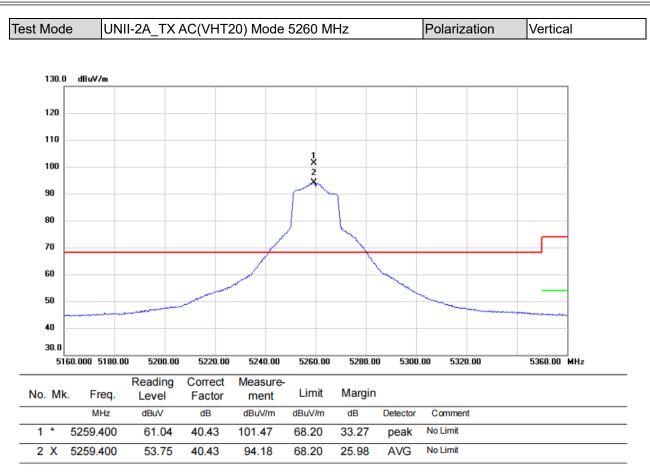
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





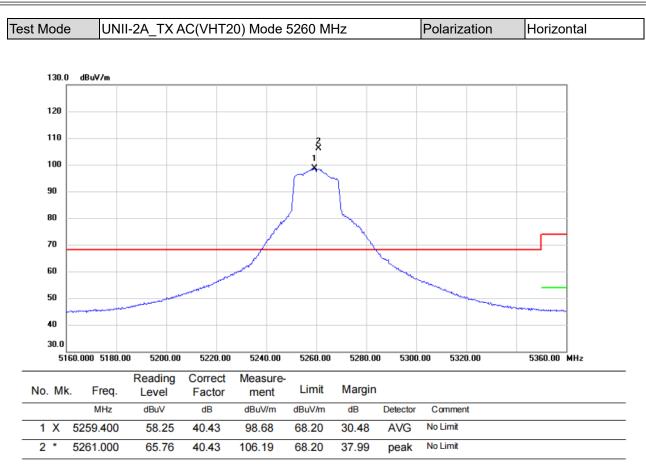
- (1) Measurement Value = Reading Level + Correct Factor.
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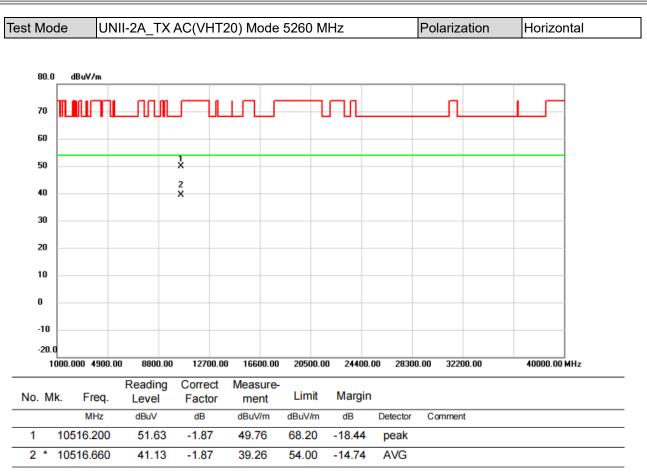
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





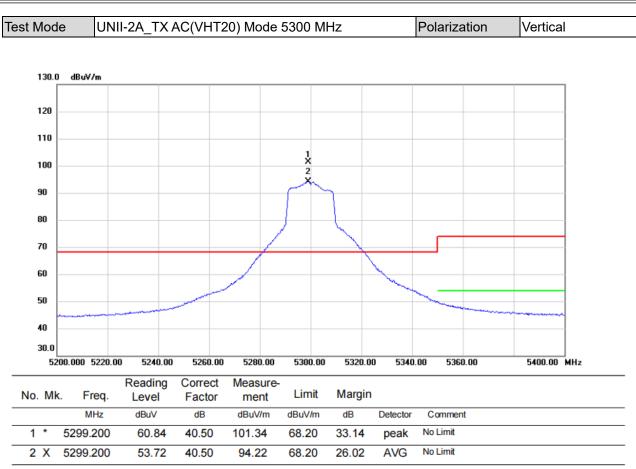
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





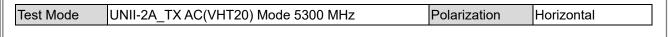
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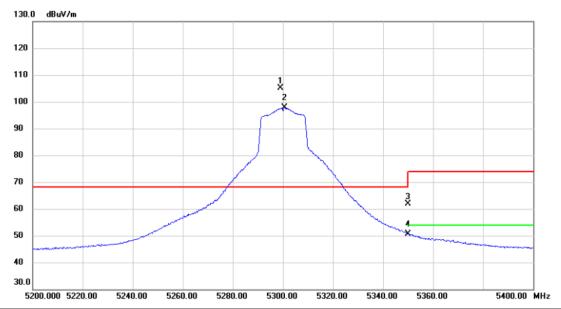




- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



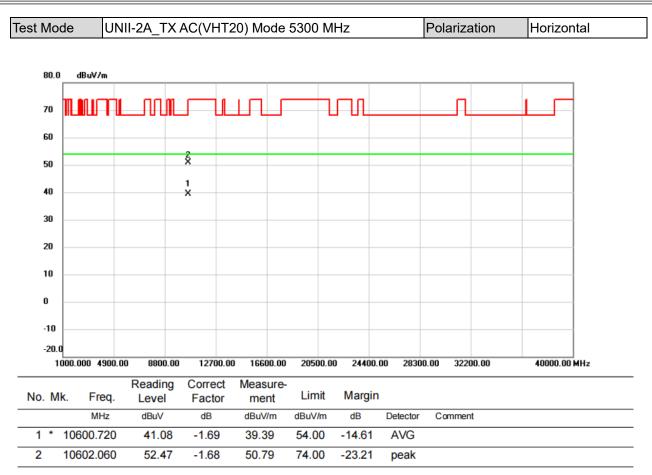




No.	M	1k.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	5	299.000	64.58	40.50	105.08	68.20	36.88	peak	No Limit
2	Χ	5	300.600	57.30	40.50	97.80	68.20	29.60	AVG	No Limit
3		5	350.000	21.22	40.59	61.81	74.00	-12.19	peak	
4		5	350.000	10.06	40.59	50.65	54.00	-3.35	AVG	

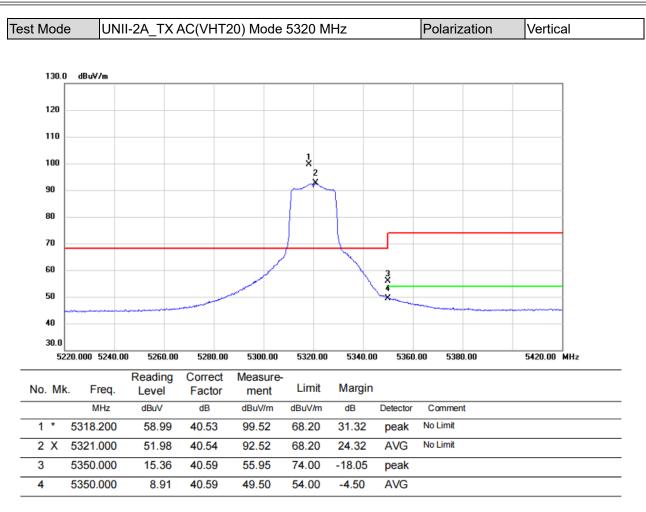
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





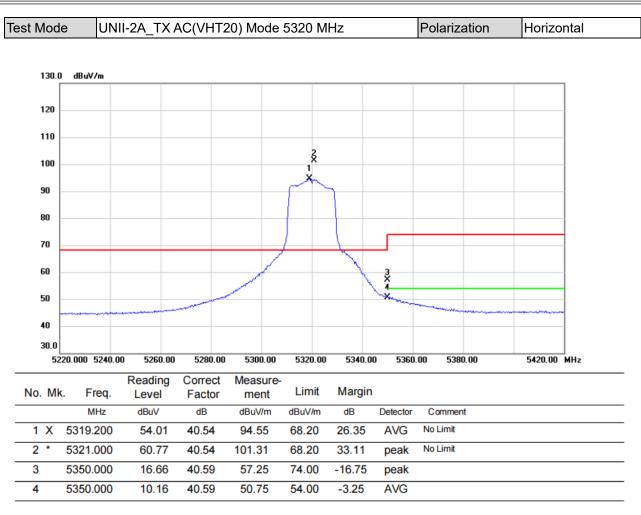
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- (2) Margin Level = Measurement Value Limit Value.





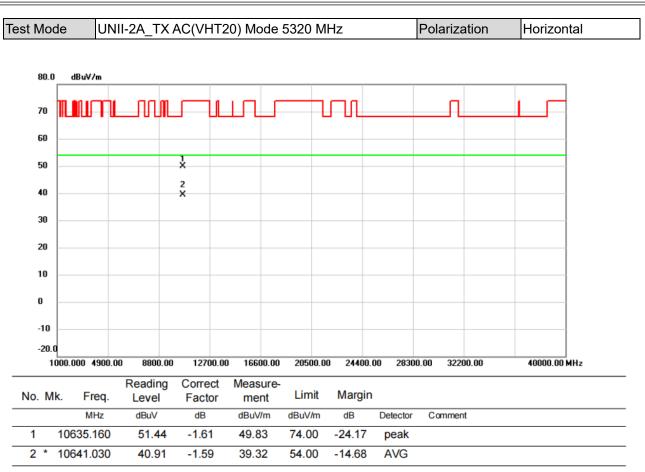
- (1) Measurement Value = Reading Level + Correct Factor.
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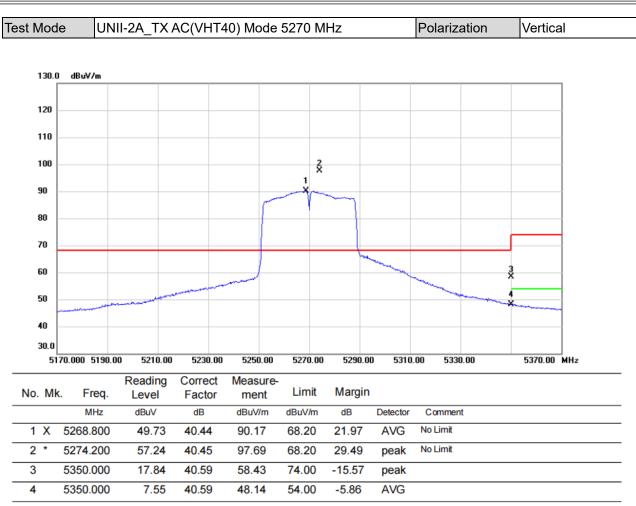
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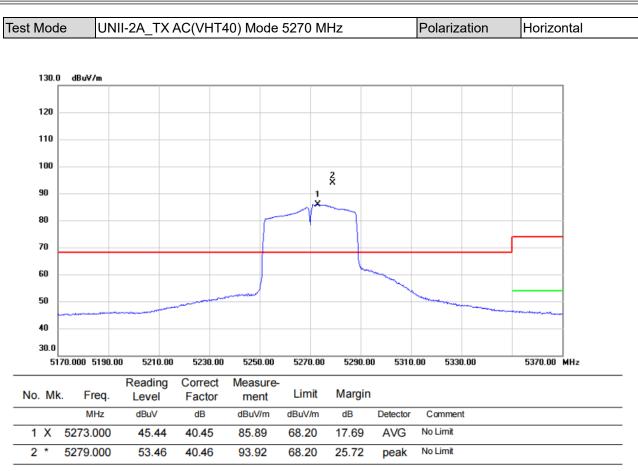
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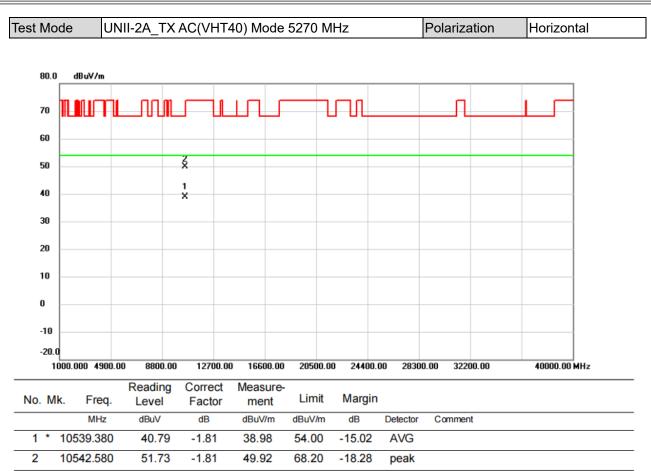
- (1) Measurement Value = Reading Level + Correct Factor.
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