



BUREAU
VERITAS

Test Report No.: PSU-NQN2504020112RF08



Certificate #6613.01

FCC TEST REPORT

(Part 15, Subpart E)

Applicant:	InHand Networks, Inc.
Address:	43671 Trade Center Place, Suite 100, Dulles, VA 20166 United States

Manufacturer or Supplier:	InHand Networks, Inc.
Address:	43671 Trade Center Place, Suite 100, Dulles, VA 20166 United States
Product:	Edge Computer
Brand Name:	inhand
Model Name:	EC3320,EC3310,EC3340
FCC ID:	2BPWU-EC3320
Date of tests:	Mar. 31, 2025 ~Apr.30, 2025

The tests have been carried out according to the requirements of the following standard:

FCC Part 15, Subpart E, Section 15.407

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Hanwen Xu Engineer / Mobile Department	Approved by Peibo Sun Manager / Mobile Department
 Date: Apr.30, 2025	 Date: Apr.30, 2025

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSU-NQN2504020112RF08	Original release	Apr.30, 2025



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1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART E		
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT
15.407(b)(9)	AC Power Conducted Emission	Compliance
15.407(b) (1/2/3/4/5)	Radiated Emission & Band Edge Measurement	Compliance
15.407(a/1/2/3)	Maximum conducted output Power	Compliance
15.407(a/1/2/3)	Peak Power Spectral Density	Compliance
15.407(a)(2)(12)	26 dB Bandwidth	Compliance
15.407(e)	6 dB Bandwidth	Compliance
15.203	Antenna Requirement	Compliance

NOTE: Except the data of Conducted Emission and RSE & Band Edge Measurement, other data please refer to the appendix

Test Model No.: EC3320

Series Model No.: EC3310, EC3340

These models are the same in these: appearance, PCB layout and basic software function; The only difference is that the products are used in different markets.

*Test Lab Information Reference

Lab A:

Huarui 7Layers High Technology (Suzhou) Co., Ltd.

Lab Address:

Tower N, Innovation Center, 88 Zuyi Road, High-tech District, Suzhou City, Anhui Province

Accredited Test Lab Cert 6613.01

The FCC Site Registration No. is 434559; The Designation No. is CN1325.



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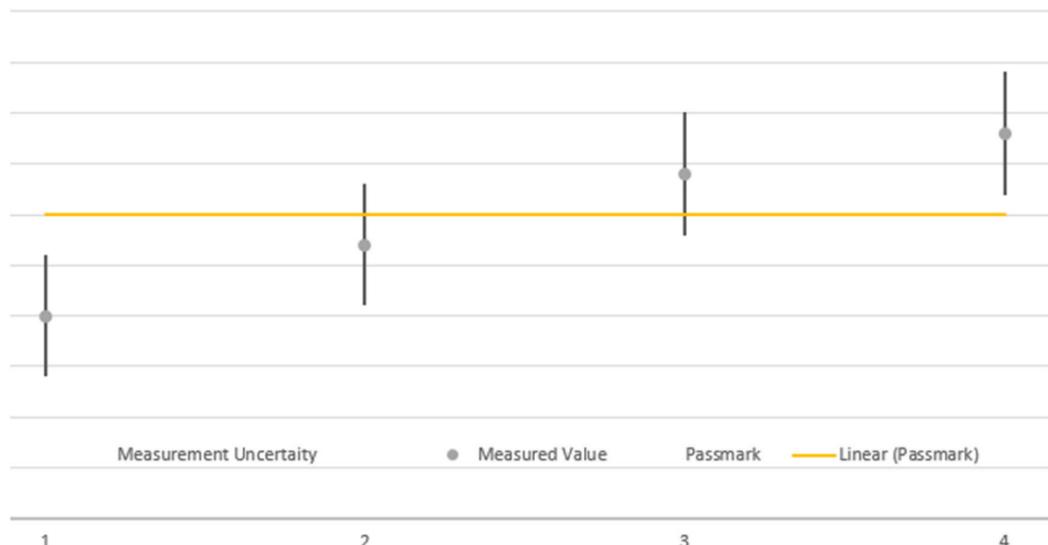
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1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	UNCERTAINTY
AC Power Conducted emissions	$\pm 2.70\text{dB}$
Radiated emissions (9KHz~30MHz)	$\pm 2.68\text{dB}$
Radiated emissions (30MHz~1GHz)	$\pm 4.98\text{dB}$
Radiated emissions (1GHz ~6GHz)	$\pm 4.70\text{dB}$
Radiated emissions (6GHz ~18GHz)	$\pm 4.60\text{dB}$
Radiated emissions (18GHz ~40GHz)	$\pm 4.12\text{dB}$
Conducted emissions	$\pm 4.01\text{dB}$
Occupied Channel Bandwidth	$\pm 43.58\text{KHz}$
Conducted Output power	$\pm 2.06\text{dB}$
Power Spectral Density	$\pm 0.85\text{ dB}$

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.



The verdicts in this test report are given according the above diagram:

Case	Measured Value	Uncertainty Range	Verdict
1	below pass mark	below pass mark	Passed
2	below pass mark	within pass mark	Passed
3	above pass mark	within pass mark	Failed
4	above pass mark	above pass mark	Failed



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That means, the laboratory applies, as decision rule (see ISO/IEC 17025:2017), the so-called shared risk principle.



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2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT*	Edge Computer
BRAND NAME*	inhand
MODEL NAME*	EC3320,EC3310,EC3340
NOMINAL VOLTAGE*	12.0Vdc
MODULATION *	OFDM,
TRANSFER RATE	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 300.0Mbps 802.11ac: up to 866.6Mbps
OPERATING FREQUENCY	5180 ~ 5240MHz, 5745 ~ 5825MHz
NUMBER OF CHANNEL	5180 ~ 5240MHz: 4 for 802.11a, 802.11n/ac (20MHz) 2 for 802.11n/ac (40MHz) 1 for 802.11ac (80MHz) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n/ac (20MHz) 2 for 802.11n/ac (40MHz) 1 for 802.11ac (80MHz)
MAX. OUTPUT POWER	93.33 mW for 5180 ~ 5240MHz 72.95 mW for 5745 ~ 5825MHz
ANTENNA TYPE*	Sucker Antenna
ANTENNA GAIN*	ANT 1/2: 0.02dBi for 5180 ~ 5240MHz/5745 ~ 5825MHz
HW VERSION*	V2.2
SW VERSION*	V2.0
I/O PORTS*	Refer to user's manual

NOTE:

- *Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, Test Lab is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitter and two receiver.

MODULATION MODE	TX FUNCTION
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802.11a	2TX/2RX
802.11n/802.11ac (20MHz)	2TX/2RX
802.11n/802.11ac (40MHz)	2TX/2RX
802.11ac (80MHz)	2TX/2RX

4. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
5. Antenna gain and EUT conducted cable loss are provided by the customer, and the laboratory will record the results based on these items that involve these two parameters.



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2.2 DESCRIPTION OF TEST MODES

FOR 5180 ~ 5240MHz

4 channels are provided for 802.11a, 802.11n, 802.11ac (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11n, 802.11ac (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (80MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
42	5210 MHz		

FOR 5745 ~ 5825MHz

5 channels are provided for 802.11a, 802.11n, 802.11ac (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz
157	5785 MHz		

2 channels are provided for 802.11n, 802.11ac (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
142	5710 MHz	159	5795 MHz
151	5755 MHz		

1 channel is provided for 802.11ac (80MHz):

CHANNEL	FREQUENCY
155	5775 MHz



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2.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	-	Powered by Adapter with wifi(5G) link
B	-	-	-	√	Powered by Battery with wifi(5G) link
C	-	-	-	-	Powered by USB with wifi(5G) link

Where

RE≥1G: Radiated Emission above 1GHz

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

NOTE:

The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.

NOTE: “-”means no effect

RADIATED EMISSION TEST (BELOW 1GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- The following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
A	802.11a	5745-5825	142 to 159	159	OFDM	MCS0



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RADIATED EMISSION TEST (ABOVE 1GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- The following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
A	802.11n/ac (20MHz)		36 to 48	36, 40, 48	OFDM, OFDMA	MCS0
A	802.11n/ac (40MHz)		38 to 46	38, 46	OFDM, OFDMA	MCS0
A	802.11ac (80MHz)		42	42	OFDM, OFDMA	MCS0
A	802.11a	5745-5825	144 to 165	144, 149, 157, 165	OFDM	6.0
A	802.11n/ac (20MHz)		144 to 165	144, 149, 157, 165	OFDM, OFDMA	MCS0
A	802.11n/ac (40MHz)		142 to 159	142, 151, 159	OFDM, OFDMA	MCS0
A	802.11ac (80MHz)		138 to 155	138, 155	OFDM, OFDMA	MCS0



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POWER LINE CONDUCTED EMISSION TEST:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- The following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
A	802.11a	5745-5825	142 to 159	159	OFDM	MCS0

BANDEDGE MEASUREMENT:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- The following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATIO N	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
A	802.11n/ac (20MHz)		36 to 48	36, 40, 48	OFDM, OFDMA	MCS0
A	802.11n/ac (40MHz)		38 to 46	38, 46	OFDM, OFDMA	MCS0
A	802.11ac (80MHz)		42	42	OFDM, OFDMA	MCS0
A	802.11a	5745-5825	144 to 165	144, 149, 157, 165	OFDM	6.0
A	802.11n/ac (20MHz)		144 to 165	144, 149, 157, 165	OFDM, OFDMA	MCS0
A	802.11n/ac (40MHz)		142 to 159	142, 151, 159	OFDM, OFDMA	MCS0
A	802.11ac (80MHz)		138, 155	138, 155	OFDM, OFDMA	MCS0



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ANTENNA PORT CONDUCTED MEASUREMENT:

- This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- The following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATIO N	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
A	802.11n/ac (20MHz)		36 to 48	36, 40, 48	OFDM, OFDMA	MCS0
A	802.11n/ac (40MHz)		38 to 46	38, 46	OFDM, OFDMA	MCS0
A	802.11ac (80MHz)		42	42	OFDM, OFDMA	MCS0
A	802.11a	5745-5825	144 to 165	144, 149, 157, 165	OFDM	6.0
A	802.11n/ac (20MHz)		144 to 165	144, 149, 157, 165	OFDM, OFDMA	MCS0
A	802.11n/ac (40MHz)		142 to 159	142, 151, 159	OFDM, OFDMA	MCS0
A	802.11ac (80MHz)		138, 155	138, 155	OFDM, OFDMA	MCS0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE<1G	23deg. C, 70%RH	DC12V By Adapter	Hanwen Xu
RE≥1G	23deg. C, 70%RH	DC 12V By Adapter	Hanwen Xu
PLC	25deg. C, 52%RH	DC12V By Adapter	Hanwen Xu
APCM	25deg. C, 60%RH	DC 36V By DC Adapter	Hanwen Xu



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2.3 DUTY CYCLE OF TEST SIGNAL

Please Refer to Appendix Of this test report.



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2.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Laptop	Lenovo	Thinkpad E14	SL10W47313	N/A

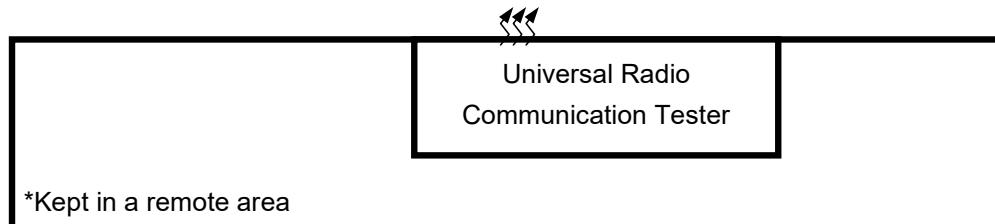
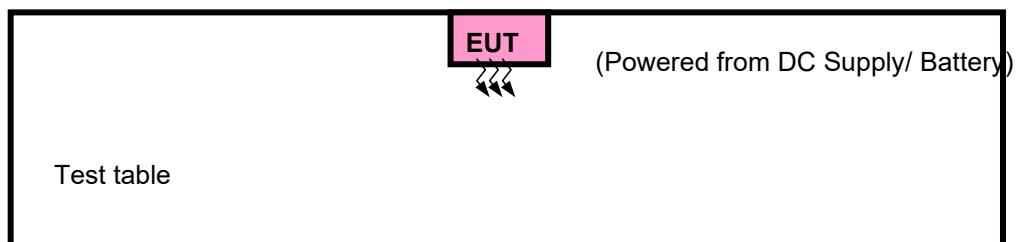
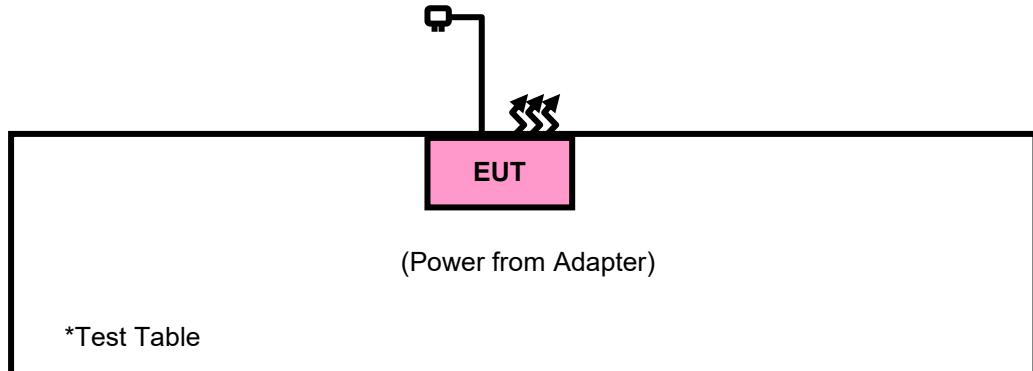
NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	AC Line: Unshielded, Detachable 1.5m
2	AC Line: Unshielded, Detachable 1.5m
3	AC Line: Unshielded, Detachable 1.5m
4	DC Line: Unshielded, Detachable 1.0m



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2.4.1 CONFIGURATION OF SYSTEM UNDER TEST





2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart E (15.407)

KDB 789033 D02 General U-NII Test Procedures New Rules v02r01

ANSI C63.10-2020

All test items have been performed and recorded as per the above standards.

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (Certification). The test report has been issued separately.



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3 TEST TYPES AND RESULTS

3.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

3.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table:

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (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

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dB μ V/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

3.1.2 LIMITS OF UNWANTED EMISSION

RESTRICTED BANDS	APPLICABLE TO	LIMIT	
		FIELD STRENGTH AT 3m (dB μ V/m)	
	789033 D02 General UNII Test Procedures New Rules v02r01	PK : 74	AV : 54
OUT OF THE RESTRICTED BANDS	APPLICABLE TO	EIRP LIMIT (dBm/MHz)	EQUIVALENT FIELD STRENGTH AT 3m (dB μ V/m)
	15.407(b)(1)		
	15.407(b)(2)	PK : -27	PK : 68.2
	15.407(b)(3)		



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	15.407(b)(4)	See note 2 (FCC 16-24)
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NOTE: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

2. 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.

3.1.3 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pre-Amplifier	R&S	SCU18F1	100815	Aug.30,23	Aug.29,25
Pre-Amplifier	R&S	SCU08F1	101028	Jan.22,24	Jan.21,26
Signal Generator	R&S	SMB100A	182185	Mar.29,24	Mar.28,26
3m Fully-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-01Chamber	Nov.25,22	Nov.24,25
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-02Chamber	Nov.25,22	Nov.24,25
EMI TEST Receiver	R&S	ESW44	101973	Mar.28,24	Mar.27,26
Bilog Antenna	SCHWARZBEC K	VULB 9163	1264	Dec.26,23	Dec.25,25
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.22,23	Aug.21,25
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Jul.15,24	Jul.14,26
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Aug.22,23	Aug.21,25
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.23,25	Feb.22,27
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.19,24	Jun.18,26
Test Software	ELEKTRA	ELEKTRA4.32	N/A	N/A	N/A
Open Switch and Control Unit	R&S	OSP220	101964	N/A	N/A
DC Source	HYELEC	HY3010B	551016	Aug.31,23	Aug.30,25
Hygrothermograph	DELI	20210528	SZ014	Sep.06,23	Sep.05,25
6dB attenuator	Tonscend Technology Co., Ltd	N/A	23062787	N/A	N/A
PC	LENOVO	E14	HRSP0024	N/A	N/A
TMC-AMI18843A(CA)	R&S	HF290-NMNM-	N/A	N/A	N/A

Huarui 7layers High Technology (Suzhou) Co., Ltd.

Tower N, Innovation Center, 88 Zuyi Road, High-tech District, Suzhou City, Anhui Province

Tel: +86 (0557) 368 1008



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Test Report No.: PSU-NQN2504020112RF08

BLE)		7.00M			
TMC-AMI18843A(CA BLE)	R&S	HF290-NMNM- 4.00M	N/A	N/A	N/A
CABLE	R&S	W13.02	N/A	Apr.27,25	Apr.26,26
CABLE	R&S	W12.14	N/A	Apr.27,25	Apr.26,26

NOTE: 1. The calibration interval of the above test instruments is 12 /24/ 36 months and the calibrations are traceable to CEPREI/CHINA, GRRGT/CHINA and NIM/CHINA.
2. The test was performed in 3m Chamber.
3. The FCC Site Registration No. is 434559; The Designation No. is CN1325.



3.1.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. 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 from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

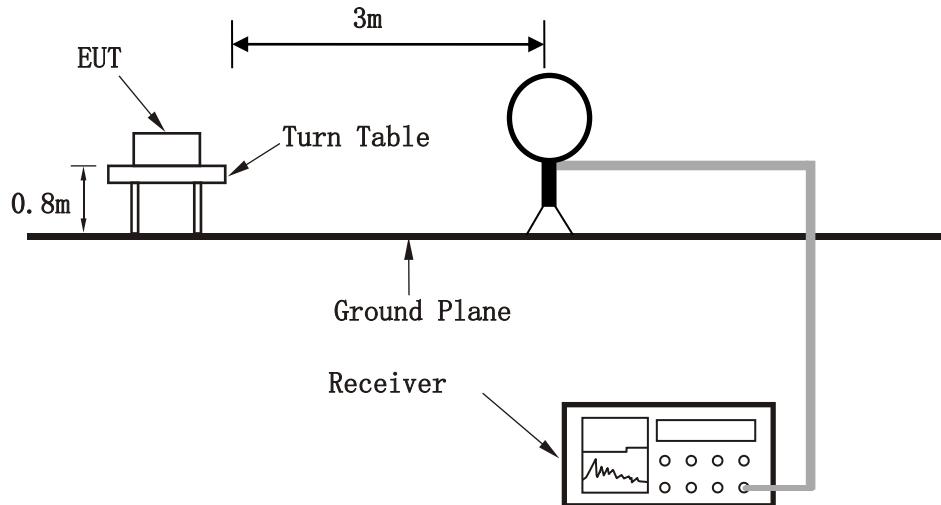


3.1.5 DEVIATION FROM TEST STANDARD

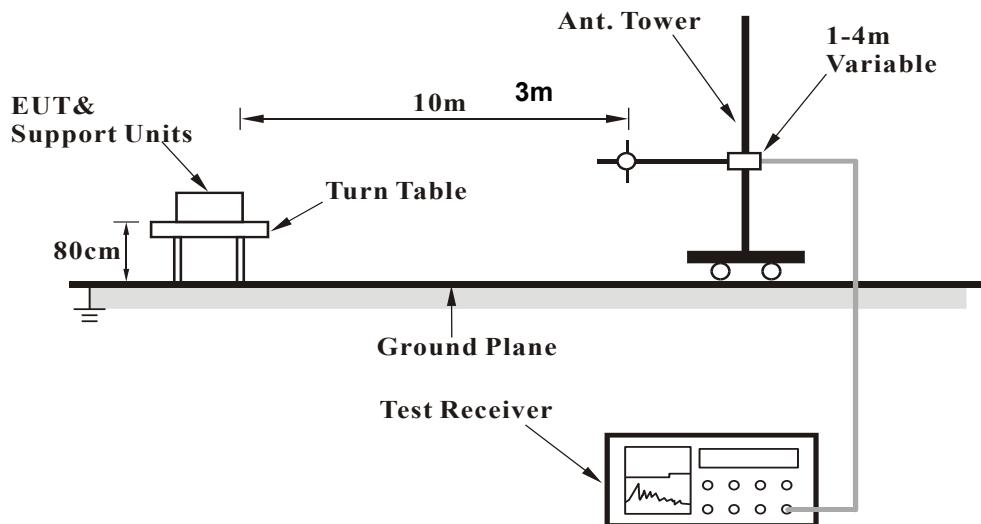
No deviation.

3.1.6 TEST SETUP

<Frequency Range 9KHz~30MHz >

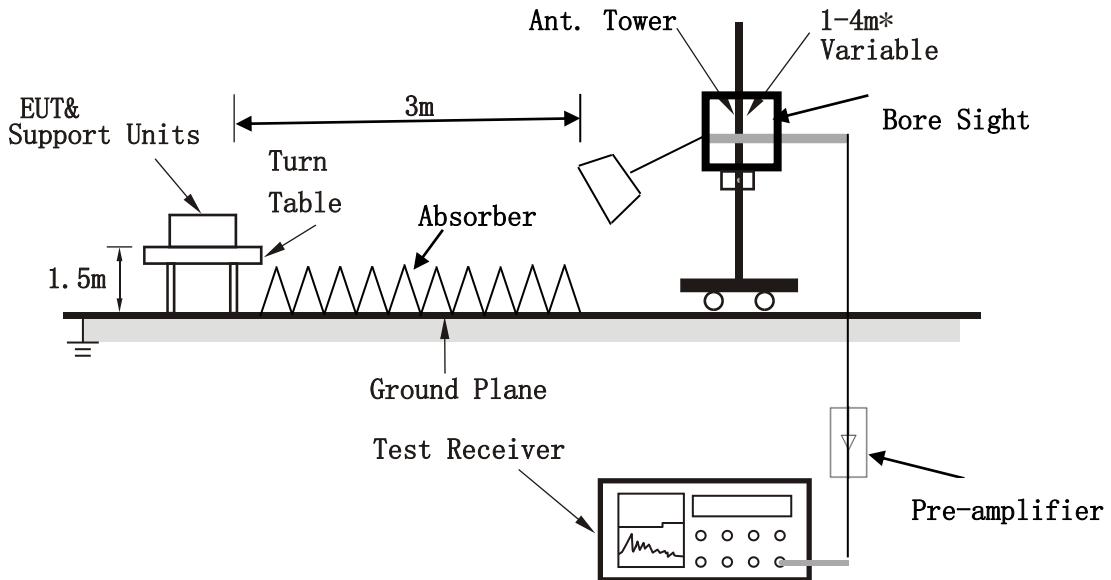


< Frequency Range 30MHz~1GHz >





<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna

Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.1.7 EUT OPERATING CONDITION

- Set the EUT under full load condition and placed them on a testing table.
- Set the transmitter part of EUT under transmission condition continuously at specific channel frequency.
- The necessary accessories enable the EUT in full functions.



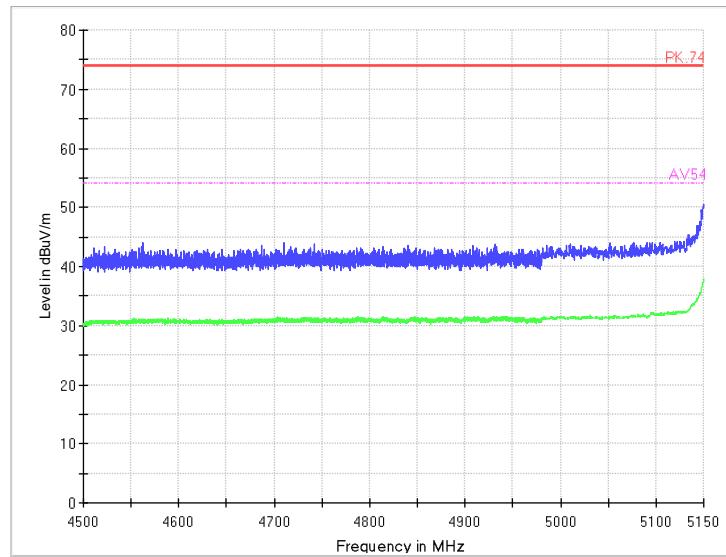
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3.1.8 TEST RESULTS

BANDEDGE

20M

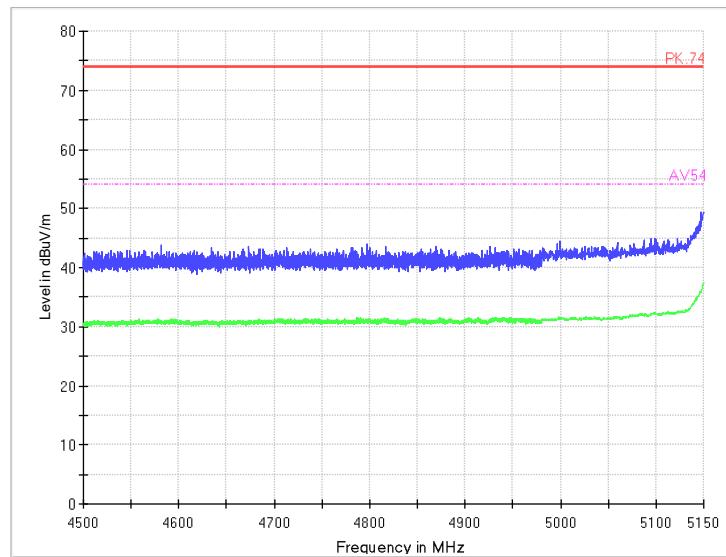


Radiated Emission Band Edge
Channel No.:36
Test Mode: 802.11a
Polarization: V



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Test Report No.: PSU-NQN2504020112RF08

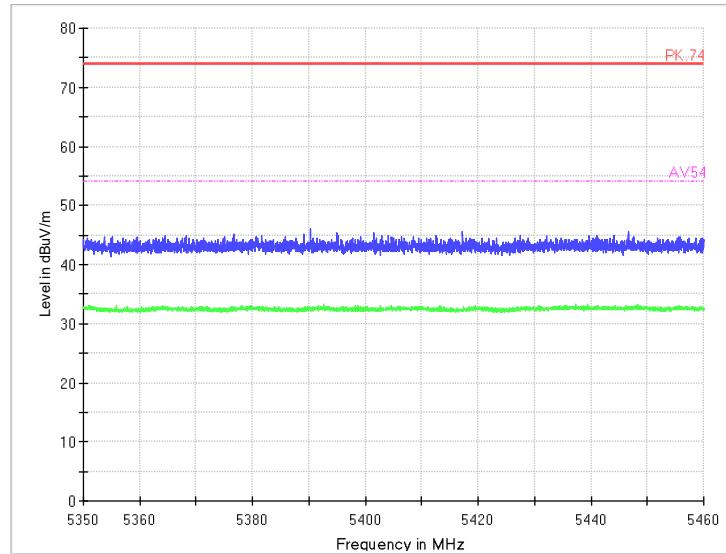


Radiated Emission Band Edge
Channel No.:36
Test Mode: 802.11a
Polarization: H

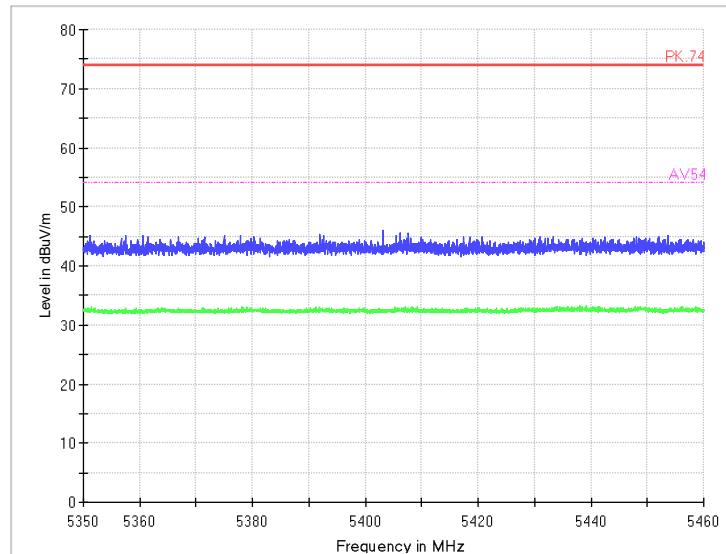


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Test Report No.: PSU-NQN2504020112RF08



Radiated Emission Band Edge
Channel No.:48
Test Mode: 802.11a
Polarization: V

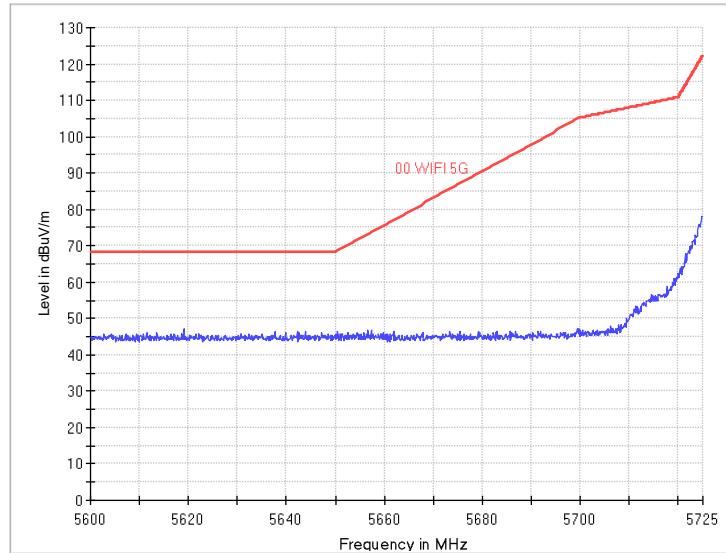


Radiated Emission Band Edge
Channel No.:48
Test Mode: 802.11a
Polarization: H

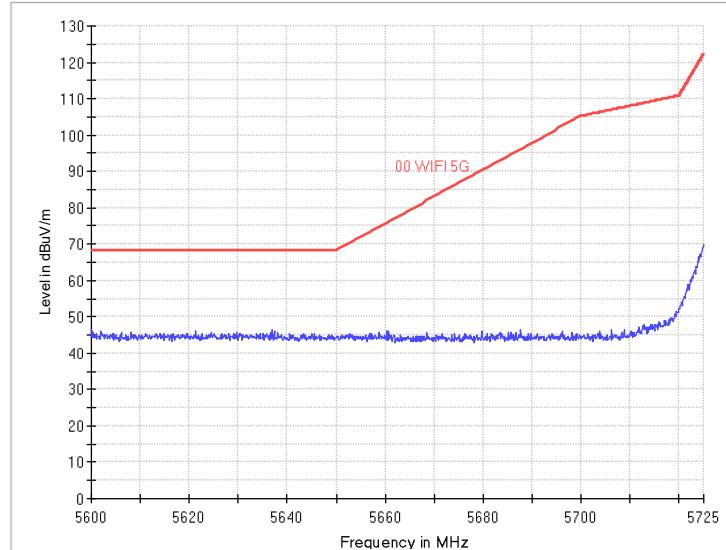


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Test Report No.: PSU-NQN2504020112RF08



Radiated Emission Band Edge
Channel No.:149
Test Mode: 802.11a
Polarization: V

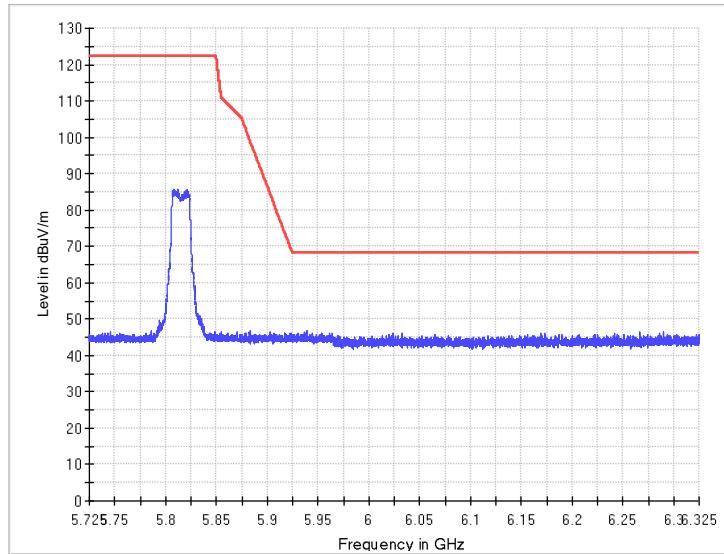


Radiated Emission Band Edge
Channel No.:149
Test Mode: 802.11a
Polarization: H

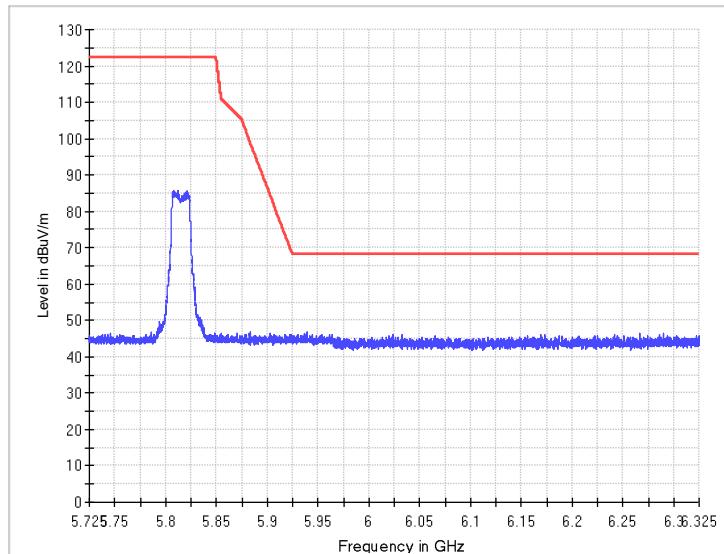


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Test Report No.: PSU-NQN2504020112RF08



Radiated Emission Band Edge
Channel No.:165
Test Mode: 802.11a
Polarization: V

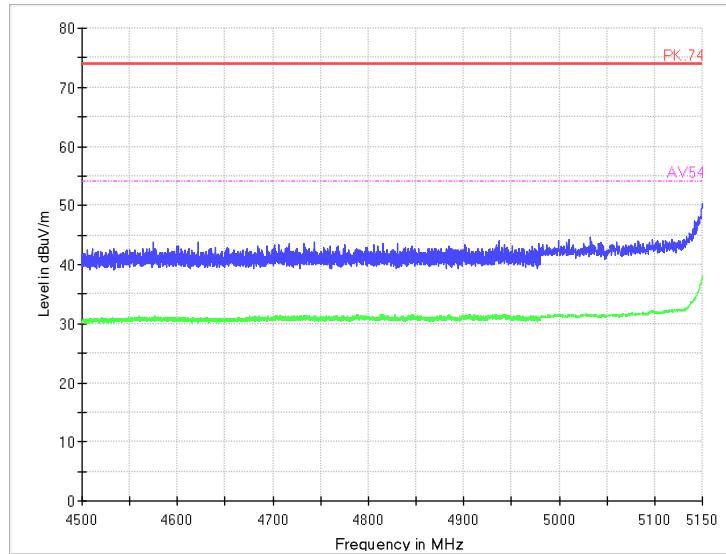


Radiated Emission Band Edge
Channel No.:165
Test Mode: 802.11a
Polarization: H

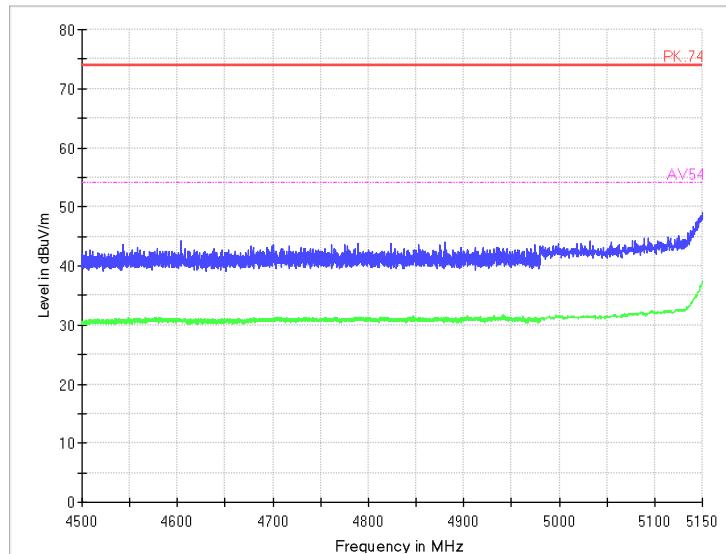


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Test Report No.: PSU-NQN2504020112RF08



Radiated Emission Band Edge
Channel No.:36
Test Mode: 802.11n
Polarization: V

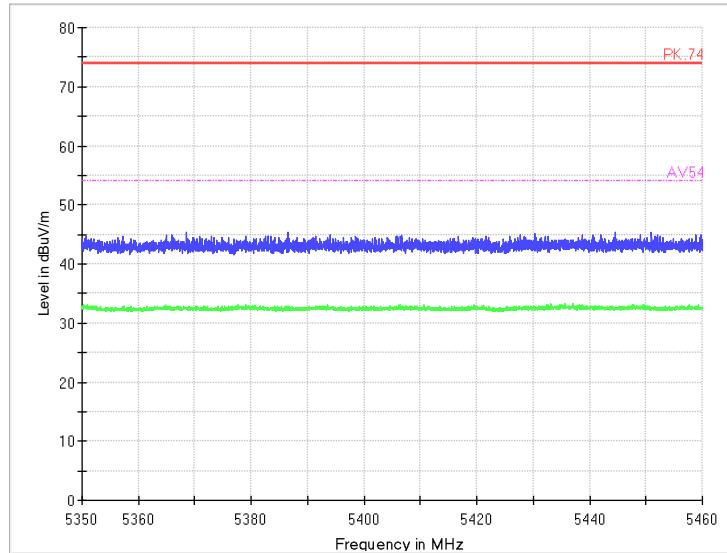


Radiated Emission Band Edge
Channel No.:36
Test Mode: 802.11n
Polarization: H

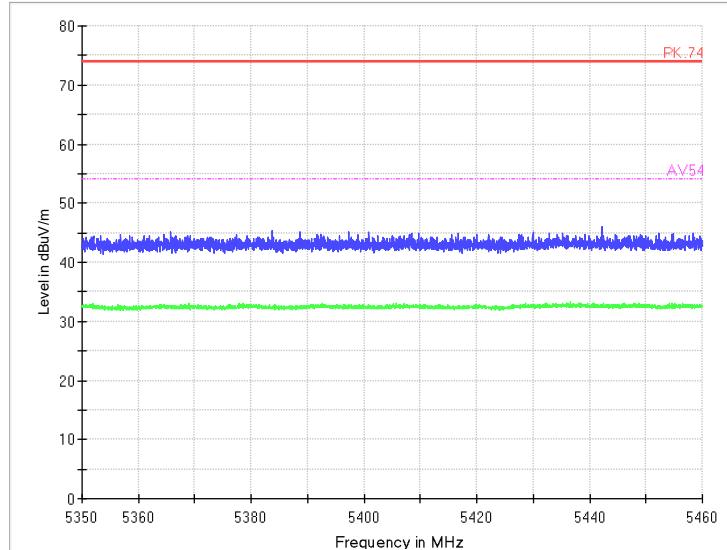


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Test Report No.: PSU-NQN2504020112RF08



Radiated Emission Band Edge
Channel No.:48
Test Mode: 802.11n
Polarization: V

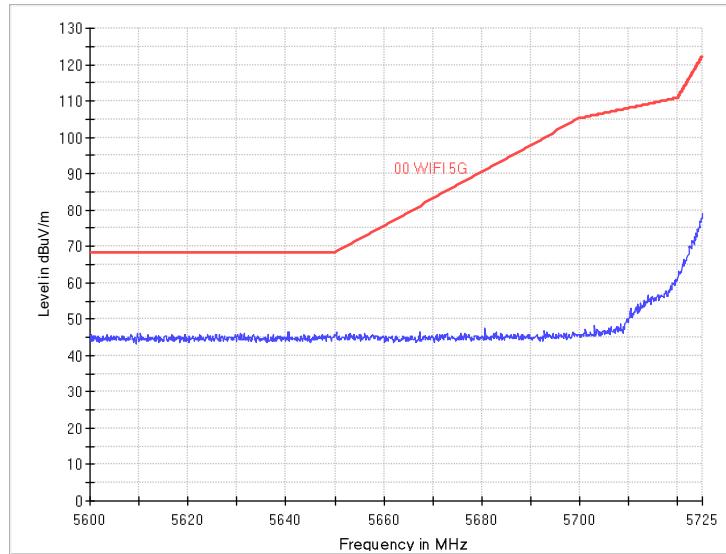


Radiated Emission Band Edge
Channel No.:48
Test Mode: 802.11n
Polarization: H

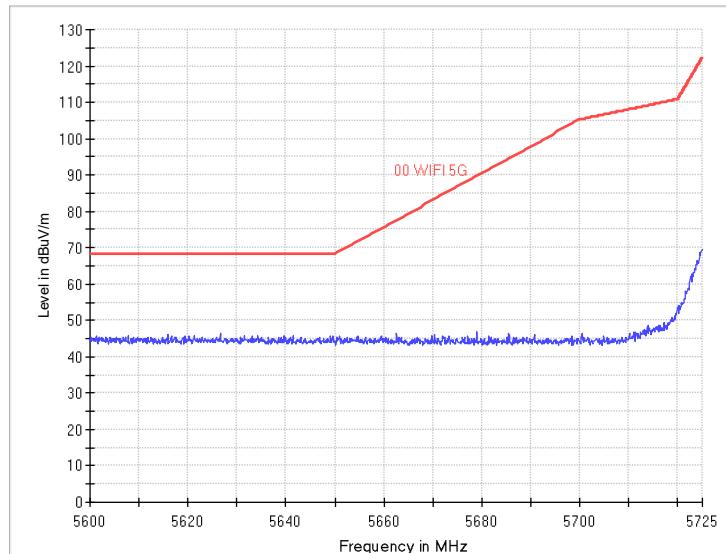


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Test Report No.: PSU-NQN2504020112RF08



Radiated Emission Band Edge
Channel No.:149
Test Mode: 802.11n
Polarization: V



Radiated Emission Band Edge
Channel No.:149
Test Mode: 802.11n
Polarization: H

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(Suzhou) Co., Ltd.

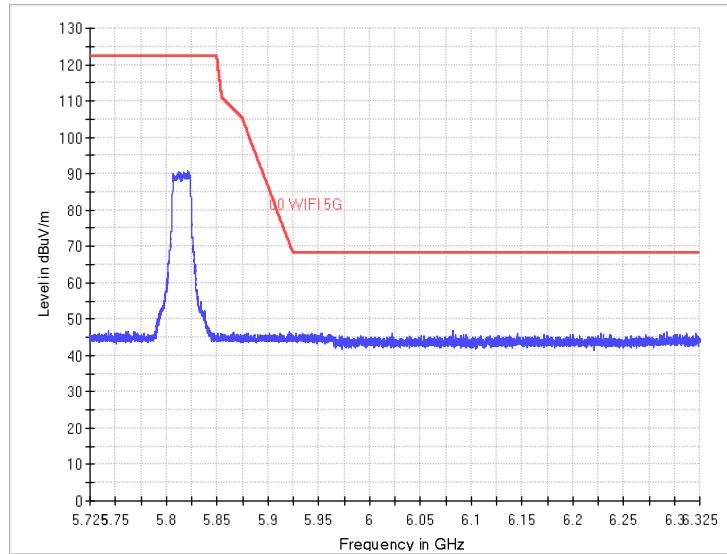
Tower N, Innovation Center, 88 Zuyi Road, High-tech
District, Suzhou City, Anhui Province

Tel: +86 (0557) 368 1008

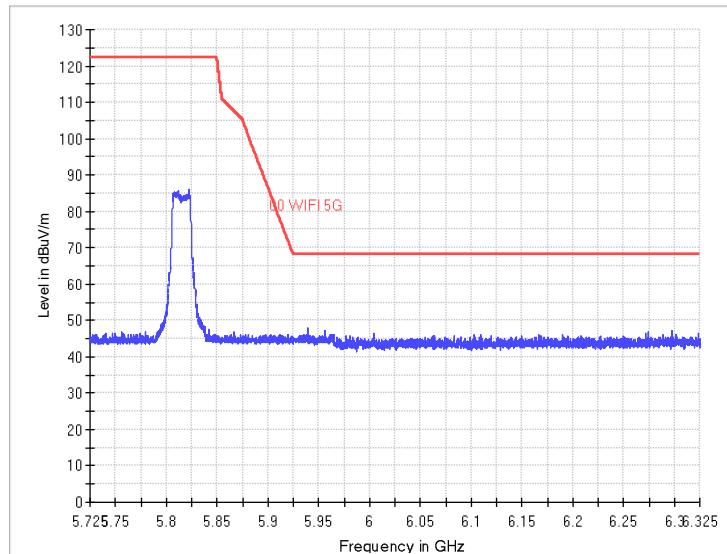


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Test Report No.: PSU-NQN2504020112RF08



Radiated Emission Band Edge
Channel No.:165
Test Mode: 802.11n
Polarization: V

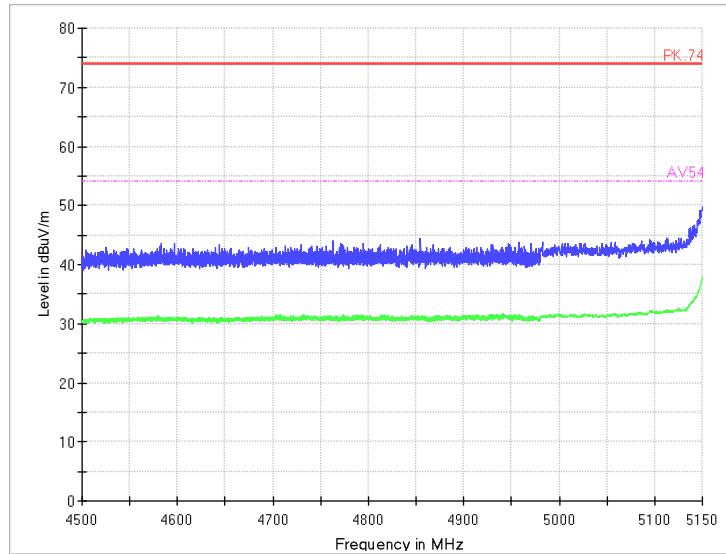


Radiated Emission Band Edge
Channel No.:165
Test Mode: 802.11n
Polarization: H

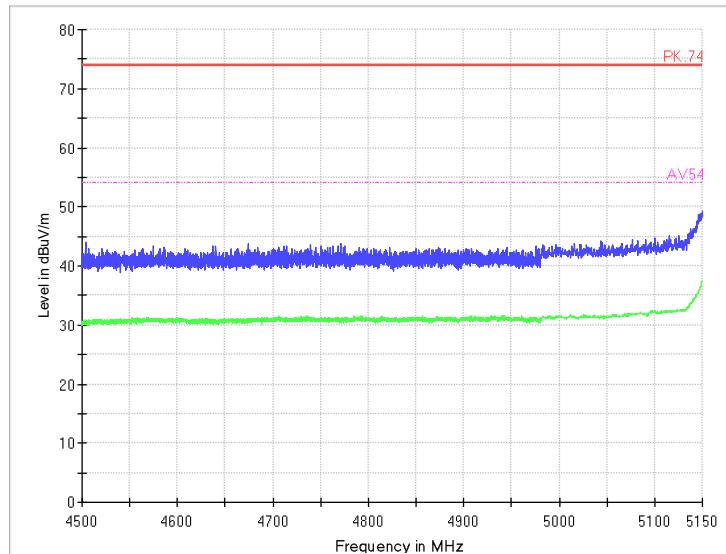


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Test Report No.: PSU-NQN2504020112RF08



Radiated Emission Band Edge
Channel No.:36
Test Mode: 802.11ac
Polarization: V

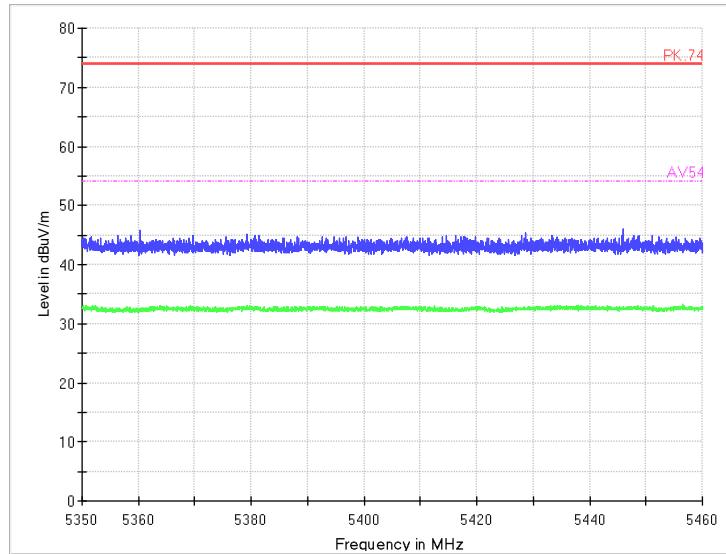


Radiated Emission Band Edge
Channel No.:36
Test Mode: 802.11ac
Polarization: H

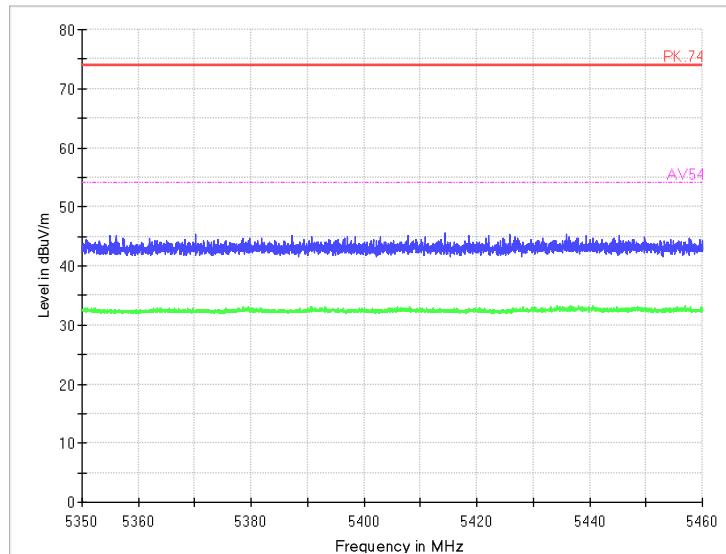


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Test Report No.: PSU-NQN2504020112RF08



Radiated Emission Band Edge
Channel No.:48
Test Mode: 802.11ac
Polarization: V

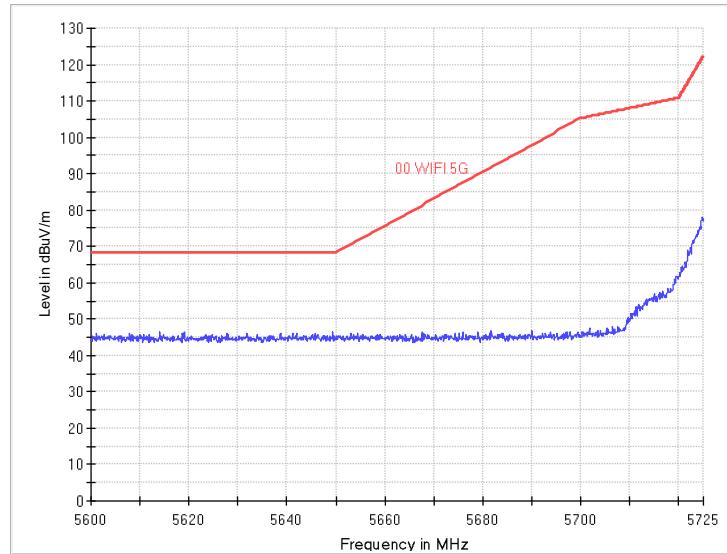


Radiated Emission Band Edge
Channel No.:48
Test Mode: 802.11ac
Polarization: H

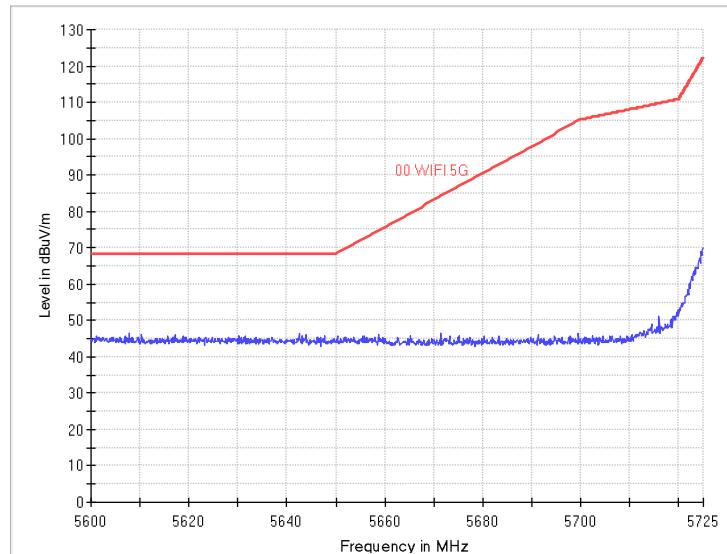


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Test Report No.: PSU-NQN2504020112RF08



Radiated Emission Band Edge
Channel No.:149
Test Mode: 802.11ac
Polarization: V



Radiated Emission Band Edge
Channel No.:149
Test Mode: 802.11ac
Polarization: H

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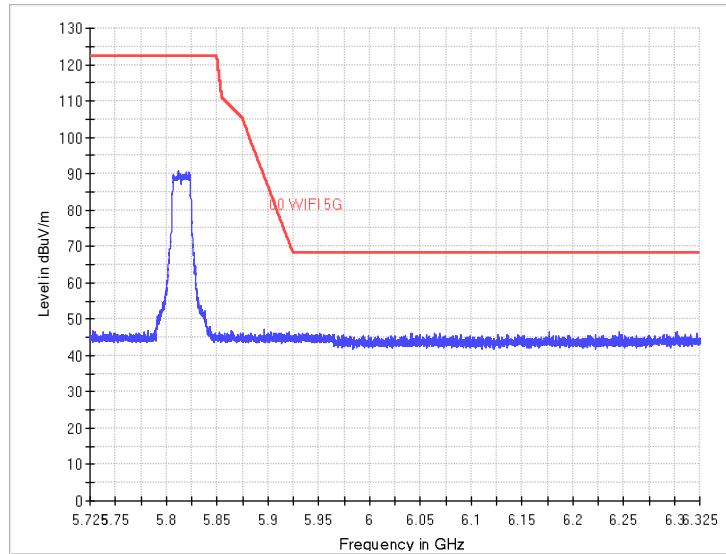
Tower N, Innovation Center, 88 Zuyi Road, High-tech
District, Suzhou City, Anhui Province

Tel: +86 (0557) 368 1008

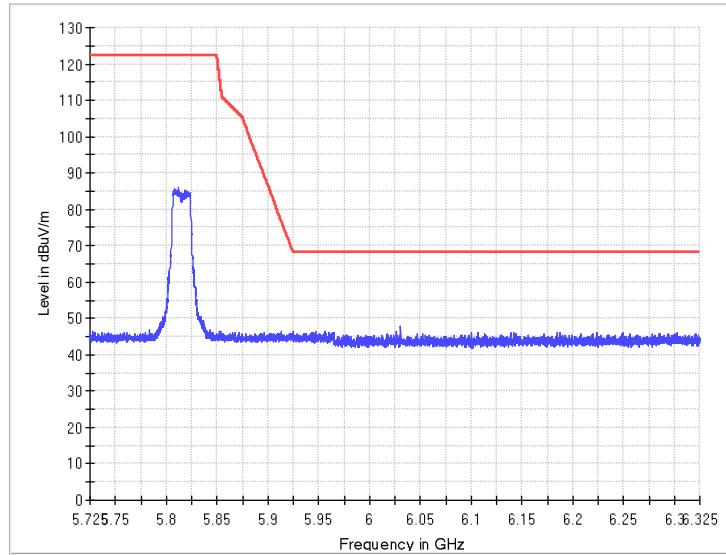


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Radiated Emission Band Edge
Channel No.:165
Test Mode: 802.11ac
Polarization: V



Radiated Emission Band Edge
Channel No.:165
Test Mode: 802.11ac
Polarization: H



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Test Report No.: PSU-NQN2504020112RF08

Radiated Emission

Sample Calculations

After comparison, the worst case attitude is EUT lay down

Determining Spurious Emissions Levels

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

The measurement results are obtained as described below:

Result = $P_{mea} + A_{Rpl}$

Sample calculation: $(22.4 \text{ dB}\mu\text{V}/\text{m}) = (37.8 \text{ dB}\mu\text{V}) + (-15.4 \text{ dB}/\text{m})$, the corresponding frequency is 38.5845MHz.

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

For 802.11a Channel No.:36

Frequency(MHz)	Result(dBuV/m)	A_{Rpl} (dB)	P_{mea} (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
48.2845	22.4	-15.4	37.8	Vertical	40	17.6
55.7535	21.32	-15.7	37.02	Vertical	40	18.68
97.0755	17.25	-17.7	34.95	Vertical	43.5	26.25
278.0775	18.77	-14.6	33.37	Vertical	46	27.23
529.1135	24.45	-8.7	33.15	Vertical	46	21.55
927.638	30.35	-1.7	32.05	Vertical	46	15.65

For 802.11n(HT20) Channel No.:36

Frequency(MHz)	Result(dBuV/m)	A_{Rpl} (dB)	P_{mea} (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
49.982	22.18	-15.4	37.58	Vertical	40	17.82
54.9775	21.68	-15.6	37.28	Vertical	40	18.32
106.9695	17.03	-17.3	34.33	Vertical	43.5	26.47
302.6185	19.13	-14	33.13	Vertical	46	26.87
533.527	24.39	-8.6	32.99	Vertical	46	21.61
929.384	30.26	-1.6	31.86	Vertical	46	15.74



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For 802.11ac(VHT20)Channel No.:36

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
41.931	21.76	-16.4	38.16	Vertical	40	18.24
56.578	21.17	-15.8	36.97	Vertical	40	18.83
100.9555	17.51	-17.1	34.61	Vertical	43.5	25.99
295.9255	19.16	-14.1	33.26	Vertical	46	26.84
547.9315	24.76	-8.3	33.06	Vertical	46	21.24
926.8135	30.22	-1.7	31.92	Vertical	46	15.78

For 802.11aChannel No.:40

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
46.5385	22.04	-15.7	37.74	Vertical	40	17.96
54.541	21.61	-15.6	37.21	Vertical	40	18.39
104.9325	17.48	-17	34.48	Vertical	43.5	26.02
200.6715	16.45	-16.7	33.15	Vertical	43.5	27.05
556.0795	24.94	-8.1	33.04	Vertical	46	21.06
917.8895	30.05	-1.8	31.85	Vertical	46	15.95

For 802.11n(HT20)Channel No.:40

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
46.49	21.99	-15.7	37.69	Vertical	40	18.01
55.9475	21.35	-15.7	37.05	Vertical	40	18.65
100.5675	17.48	-17.2	34.68	Vertical	43.5	26.02
281.618	18.73	-14.4	33.13	Vertical	46	27.27
547.4465	24.71	-8.3	33.01	Vertical	46	21.29
958.9205	30.07	-2	32.07	Vertical	46	15.93

For 802.11ac(VHT20)Channel No.:40

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
45.229	22.17	-15.7	37.87	Vertical	40	17.83



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54.444	21.75	-15.6	37.35	Vertical	40	18.25
98.288	17.48	-17.6	35.08	Vertical	43.5	26.02
282.491	18.75	-14.4	33.15	Vertical	46	27.25
520.917	24.37	-8.8	33.17	Vertical	46	21.63
908.044	29.87	-2.3	32.17	Vertical	46	16.13

For 802.11a Channel No.:48

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
48.2845	22.34	-15.4	37.74	Vertical	40	17.66
54.6865	21.74	-15.6	37.34	Vertical	40	18.26
98.773	17.48	-17.5	34.98	Vertical	43.5	26.02
290.5905	18.99	-14.2	33.19	Vertical	46	27.01
553.1695	24.89	-8.1	32.99	Vertical	46	21.11
948.59	29.81	-2.1	31.91	Vertical	46	16.19

For 802.11n(HT20) Channel No.:48

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
44.1135	22.29	-15.9	38.19	Vertical	40	17.71
54.056	21.84	-15.6	37.44	Vertical	40	18.16
103.9625	17.58	-17	34.58	Vertical	43.5	25.92
195.579	16.37	-16.6	32.97	Vertical	43.5	27.13
557.001	24.93	-8.1	33.03	Vertical	46	21.07
933.07	30.06	-1.7	31.76	Vertical	46	15.94

For 802.11ac(VHT20) Channel No.:48

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
44.5015	22.28	-15.8	38.08	Vertical	40	17.72
55.7535	21.35	-15.7	37.05	Vertical	40	18.65
102.2165	17.49	-17.1	34.59	Vertical	43.5	26.01
286.1285	18.69	-14.3	32.99	Vertical	46	27.31
533.43	24.49	-8.6	33.09	Vertical	46	21.51
941.218	30.1	-1.9	32	Vertical	46	15.9



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Test Report No.: PSU-NQN2504020112RF08

For 802.11a Channel No.:149

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
49.1575	22.38	-15.4	37.78	Vertical	40	17.62
59.0515	20.75	-16.2	36.95	Vertical	40	19.25
98.5305	17.53	-17.5	35.03	Vertical	43.5	25.97
200.8655	16.35	-16.7	33.05	Vertical	43.5	27.15
524.4575	24.47	-8.7	33.17	Vertical	46	21.53
933.07	29.95	-1.7	31.65	Vertical	46	16.05

For 802.11n(HT20) Channel No.:149

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
44.744	22.16	-15.8	37.96	Vertical	40	17.84
57.1115	21	-15.9	36.9	Vertical	40	19
101.004	17.45	-17.1	34.55	Vertical	43.5	26.05
292.5305	18.87	-14.2	33.07	Vertical	46	27.13
551.6175	24.86	-8.2	33.06	Vertical	46	21.14
923.37	30.08	-1.7	31.78	Vertical	46	15.92

For 802.11ac(VHT20) Channel No.:149

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
49.012	22.39	-15.4	37.79	Vertical	40	17.61
54.2015	21.77	-15.6	37.37	Vertical	40	18.23
103.6715	17.65	-17	34.65	Vertical	43.5	25.85
288.9415	19.07	-14.2	33.27	Vertical	46	26.93
534.1575	24.51	-8.6	33.11	Vertical	46	21.49
954.7495	29.97	-2.2	32.17	Vertical	46	16.03

For 802.11a Channel No.:157

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
46.1505	22.02	-15.7	37.72	Vertical	40	17.98
58.809	20.77	-16.2	36.97	Vertical	40	19.23
97.6575	17.46	-17.7	35.16	Vertical	43.5	26.04
282.8305	18.85	-14.4	33.25	Vertical	46	27.15



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VERITAS** Test Report No.: PSU-NQN2504020112RF08

557.098	24.99	-8.1	33.09	Vertical	46	21.01
904.164	29.84	-2.5	32.34	Vertical	46	16.16

For 802.11n(HT20)Channel No.:157

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
47.7025	22.2	-15.5	37.7	Vertical	40	17.8
54.7835	21.65	-15.6	37.25	Vertical	40	18.35
102.2165	17.51	-17.1	34.61	Vertical	43.5	25.99
195.87	16.53	-16.6	33.13	Vertical	43.5	26.97
526.3975	24.53	-8.7	33.23	Vertical	46	21.47
902.612	29.83	-2.5	32.33	Vertical	46	16.17

For 802.11ac(VHT20)Channel No.:157

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
47.7025	22.23	-15.5	37.73	Vertical	40	17.77
55.9475	21.34	-15.7	37.04	Vertical	40	18.66
101.295	17.41	-17.1	34.51	Vertical	43.5	26.09
303.928	19.15	-14	33.15	Vertical	46	26.85
536.0975	24.46	-8.6	33.06	Vertical	46	21.54
959.0175	30.12	-2	32.12	Vertical	46	15.88

For 802.11aChannel No.:165

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
41.349	21.69	-16.5	38.19	Vertical	40	18.31
54.7835	21.66	-15.6	37.26	Vertical	40	18.34
99.8885	17.45	-17.2	34.65	Vertical	43.5	26.05
293.7915	18.97	-14.2	33.17	Vertical	46	27.03
514.6605	24.26	-8.9	33.16	Vertical	46	21.74
935.7375	30.18	-1.8	31.98	Vertical	46	15.82

For 802.11n(HT20)Channel No.:165

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
47.5085	22.25	-15.6	37.85	Vertical	40	17.75

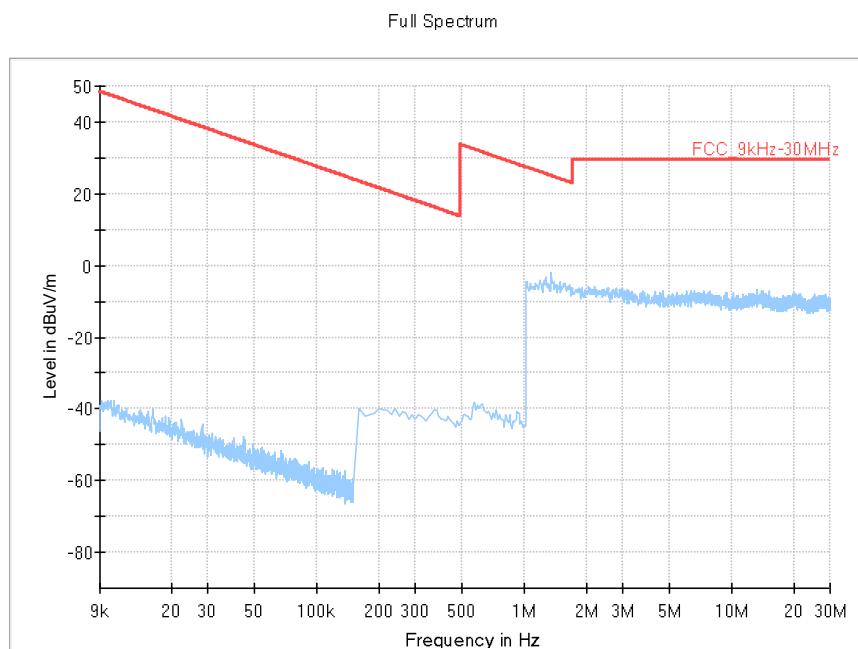


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VERITAS Test Report No.: PSU-NQN2504020112RF08

58.13	21	-16	37	Vertical	40	19
105.7085	17.37	-17.1	34.47	Vertical	43.5	26.13
309.554	19.18	-13.9	33.08	Vertical	46	26.82
532.1205	24.45	-8.6	33.05	Vertical	46	21.55
946.359	29.84	-2.1	31.94	Vertical	46	16.16

For 802.11ac(VHT20)Channel No.:165

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
47.1205	22.15	-15.6	37.75	Vertical	40	17.85
54.832	21.75	-15.6	37.35	Vertical	40	18.25
100.81	17.56	-17.1	34.66	Vertical	43.5	25.94
298.7385	19.02	-14.1	33.12	Vertical	46	26.98
539.4925	24.35	-8.7	33.05	Vertical	46	21.65
953.052	30.15	-2.2	32.35	Vertical	46	15.85



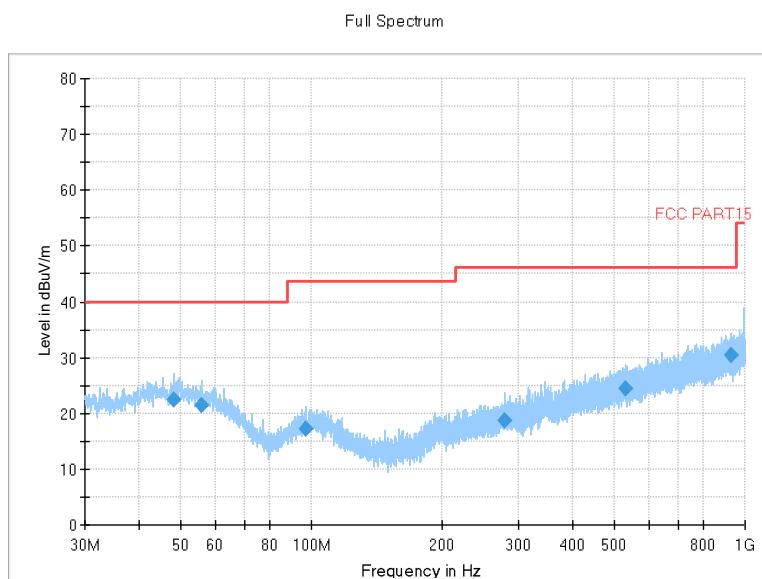


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Test Report No.: PSU-NQN2504020112RF08

Note: The relevant tests have been performed in order to verify in which mode would have the worst features, the result shown above is the worst case.

Carrier frequency (MHz): 5180
Channel No.: 36



Frequency Range: 30MHz -1GHz
Detector: QP mode

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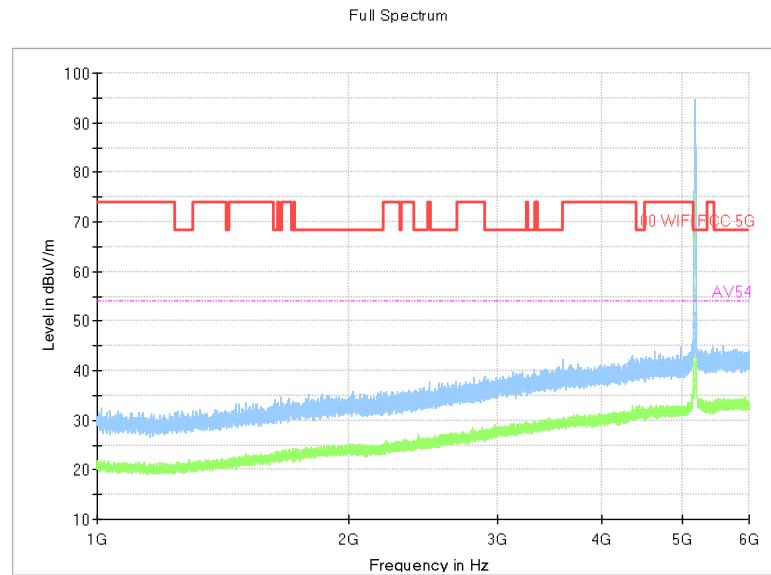
Tel: +86 (0557) 368 1008



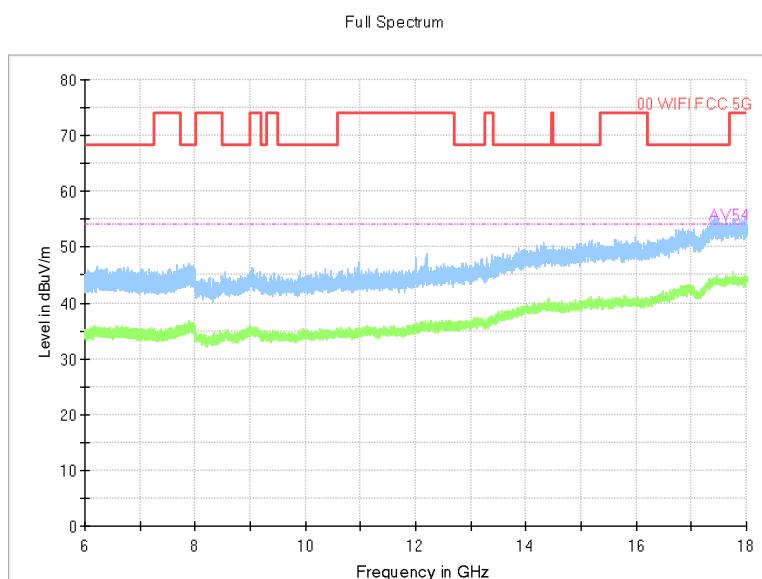
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Test Report No.: PSU-NQN2504020112RF08

Modulation type: 802.11a



Frequency Range: 1GHz -6GHz
Detector: Av mode and PK mode
Modulation type: 802.11a



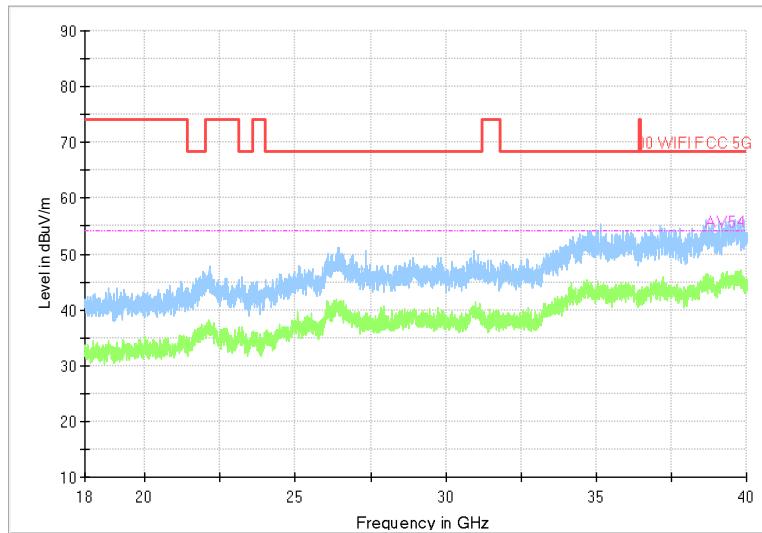
Frequency Range: 6GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11a



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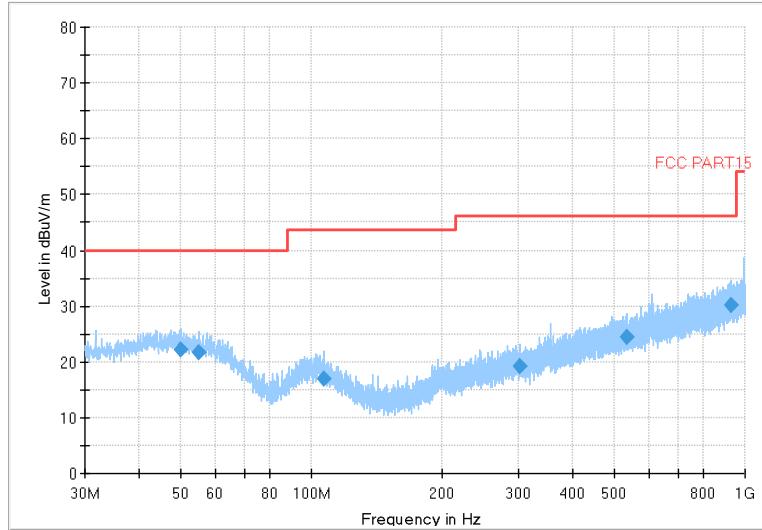
Test Report No.: PSU-NQN2504020112RF08

Full Spectrum



Frequency Range: 18GHz -40GHz
Detector: Av mode and PK mode
Modulation type: 802.11a

Full Spectrum



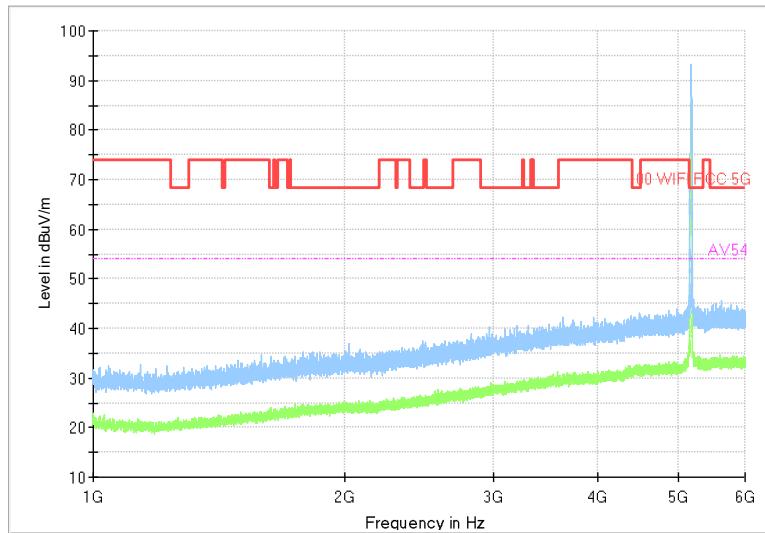
Frequency Range: 30MHz -1GHz
Detector: QP mode
Modulation type: 802.11n(HT20)



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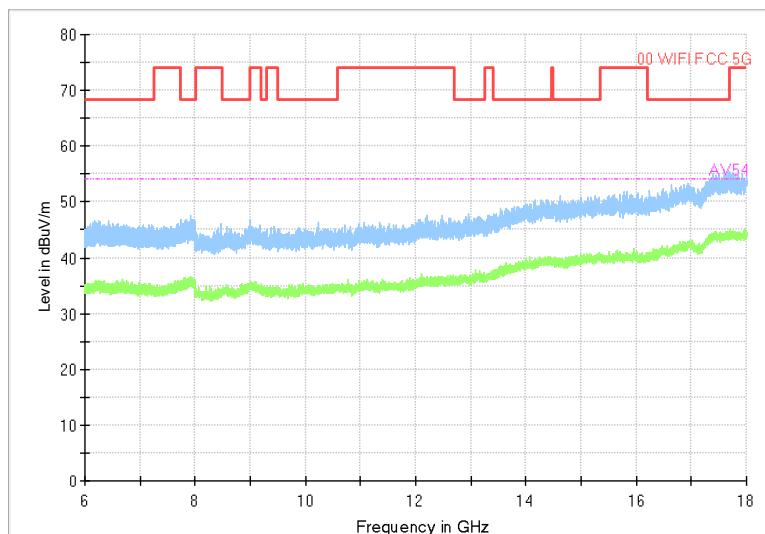
Test Report No.: PSU-NQN2504020112RF08

Full Spectrum



Frequency Range: 1GHz -6GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)

Full Spectrum



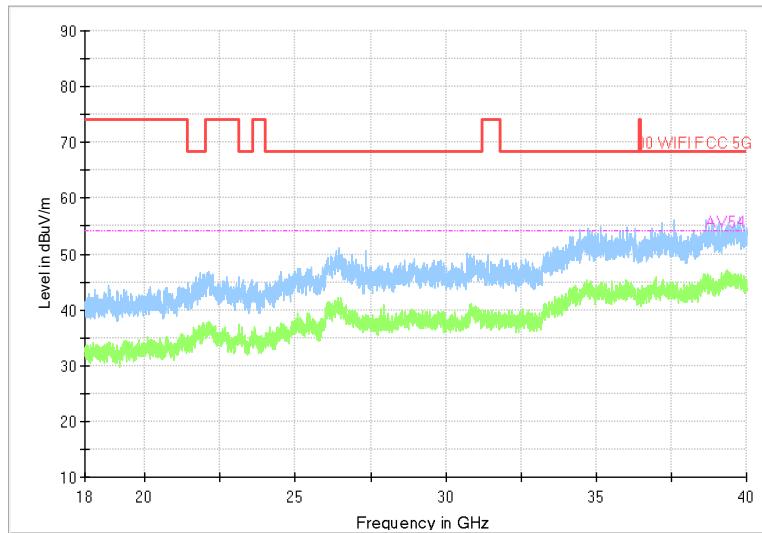
Frequency Range: 6GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)



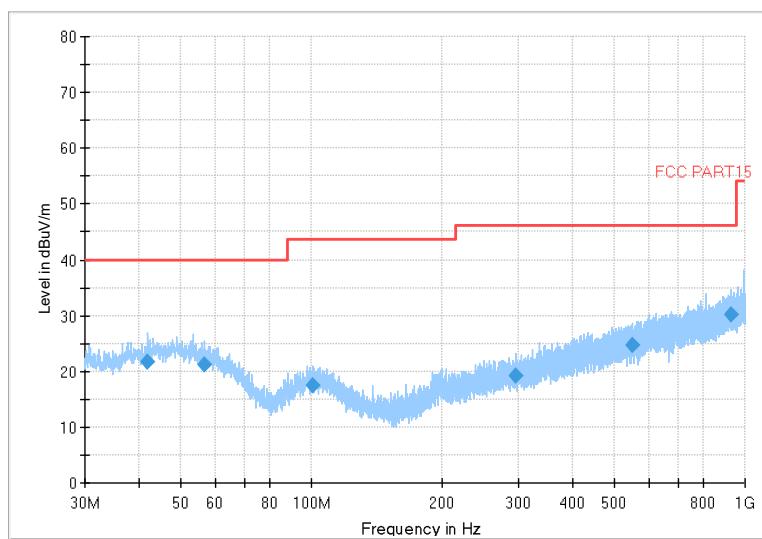
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Test Report No.: PSU-NQN2504020112RF08

Full Spectrum



Full Spectrum



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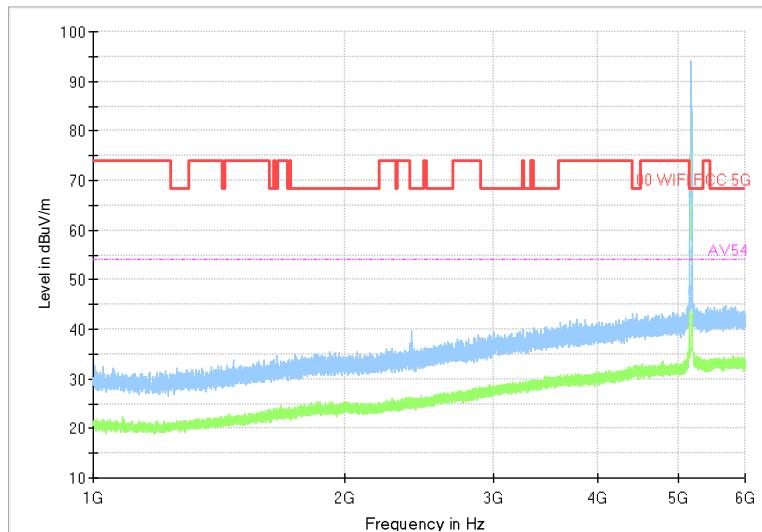


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Test Report No.: PSU-NQN2504020112RF08

Test Mode: 802.11ac(VHT20)

Full Spectrum

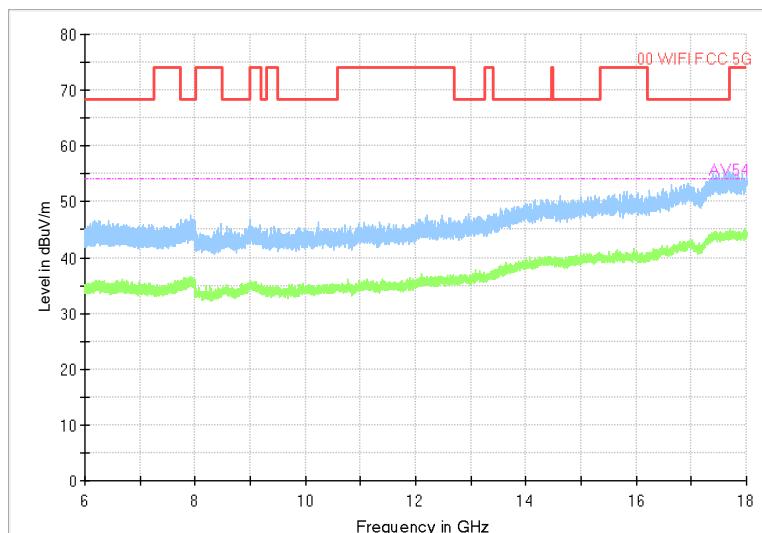


Frequency Range: 1GHz -6GHz

Detector: Av mode and PK mode

Test Mode: 802.11ac(VHT20)

Full Spectrum



Frequency Range: 6GHz -18GHz

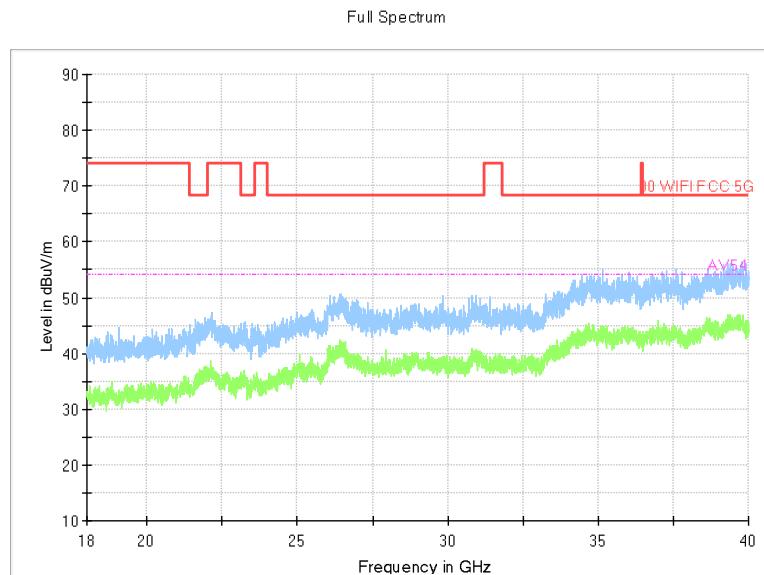
Detector: Av mode and PK mode

Test Mode: 802.11ac(VHT20)



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Test Report No.: PSU-NQN2504020112RF08



Frequency Range: 18GHz -40GHz

Detector: Av mode and PK mode

Test Mode: 802.11ac(VHT20)



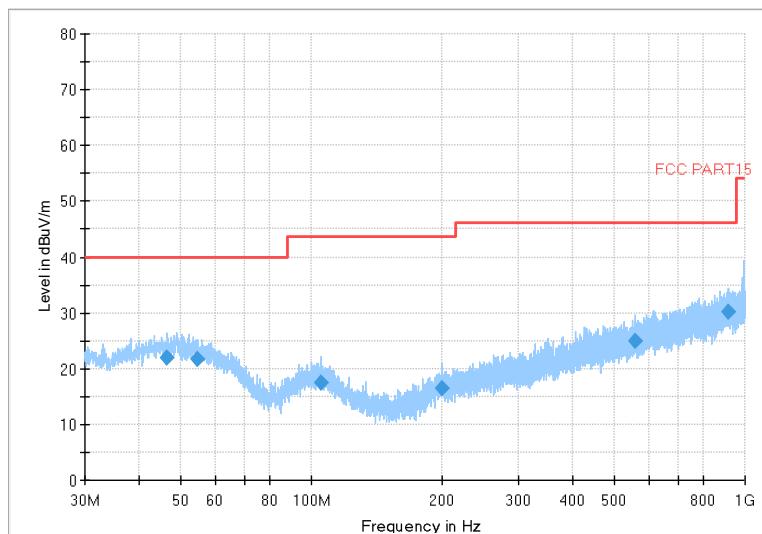
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Test Report No.: PSU-NQN2504020112RF08

Carrier frequency (MHz): 5200

Channel No.40

Full Spectrum

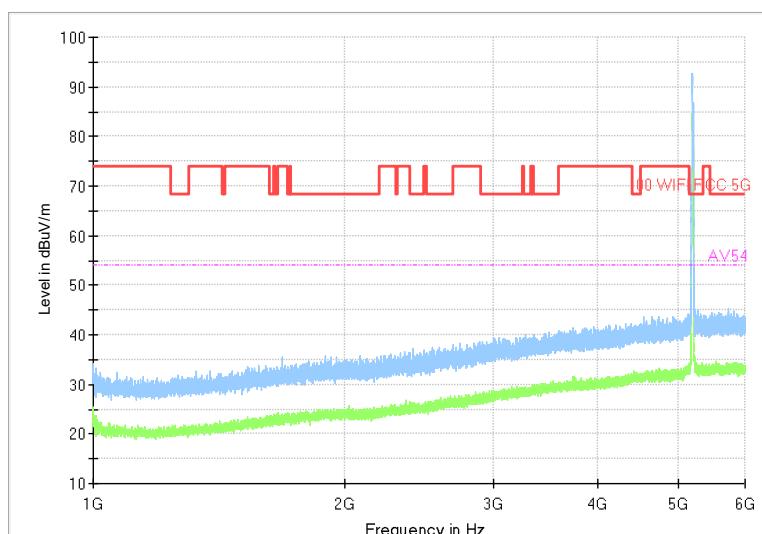


Frequency Range: 30MHz -1GHz

Detector: QP mode

Modulation type: 802.11a

Full Spectrum



Frequency Range: 1GHz -6GHz

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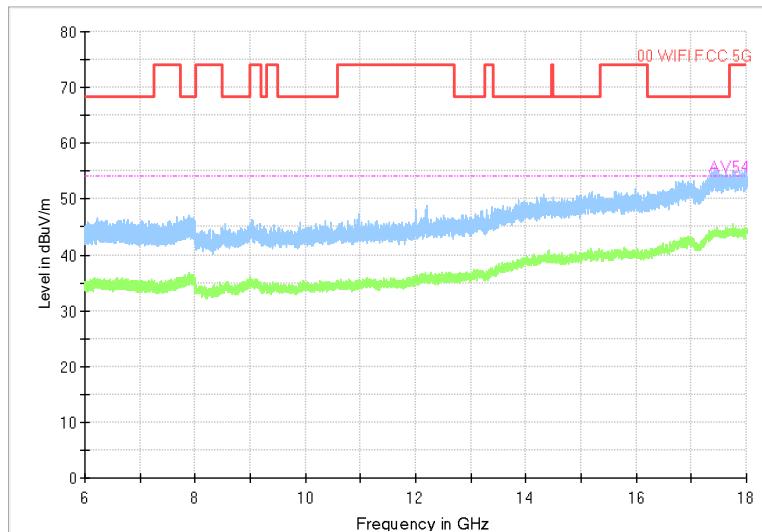


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VERITAS

Test Report No.: PSU-NQN2504020112RF08

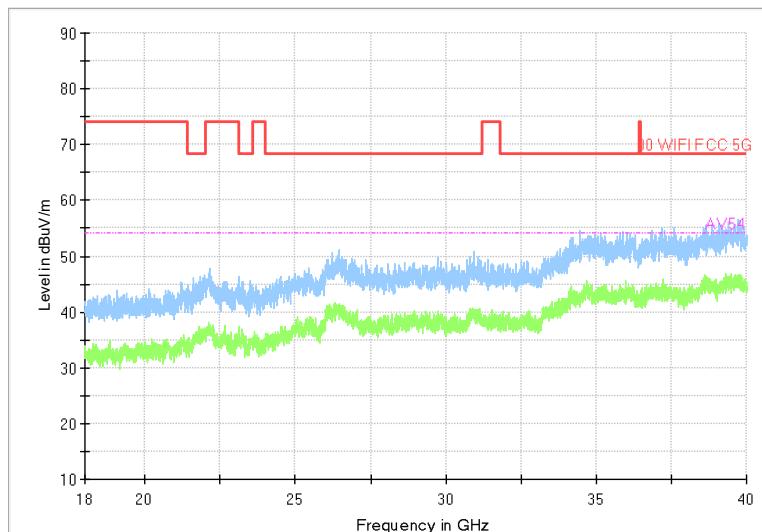
Detector: Av mode and PK mode
Modulation type: 802.11a

Full Spectrum



Frequency Range: 6GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11a

Full Spectrum



Frequency Range: 18GHz -40GHz
Detector: Av mode and PK mode
Modulation type: 802.11a

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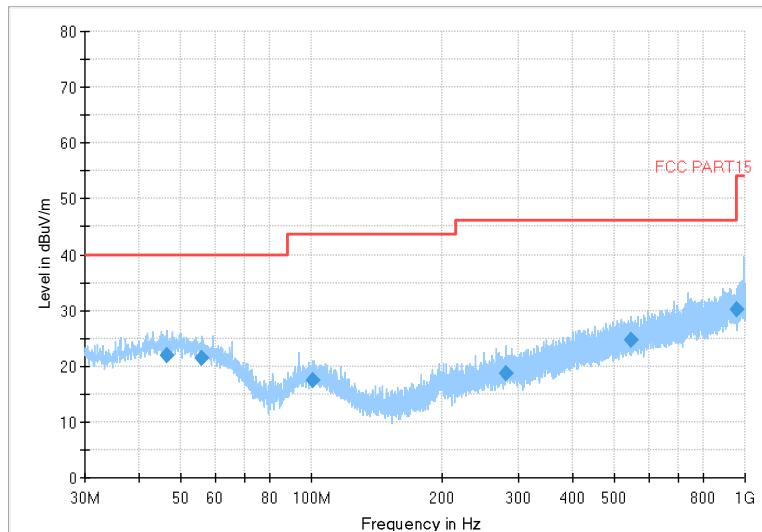
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Test Report No.: PSU-NQN2504020112RF08

Full Spectrum

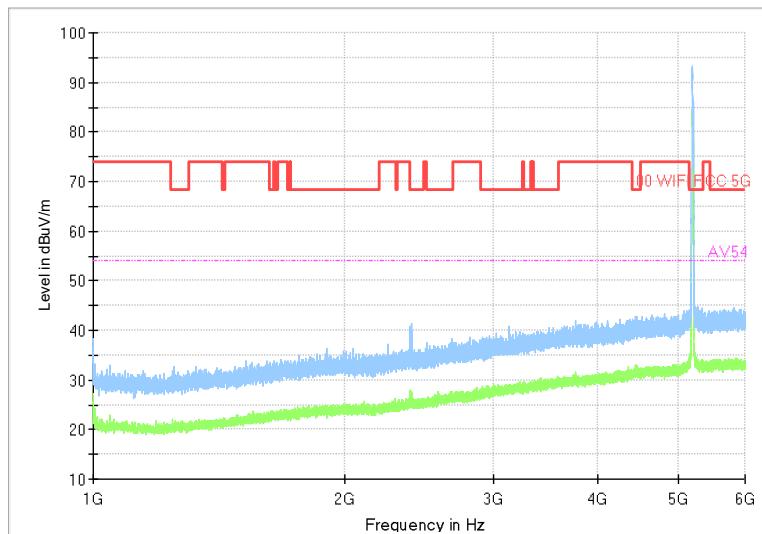


Frequency Range: 30MHz -1GHz

Detector: QP mode

Modulation type: 802.11n(HT20)

Full Spectrum



Frequency Range: 1GHz -6GHz

Detector: Av mode and PK mode

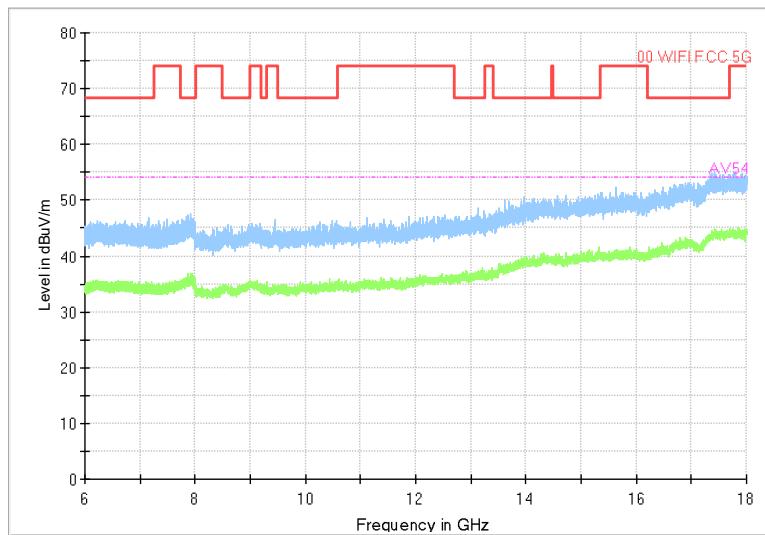
Modulation type: 802.11n(HT20)



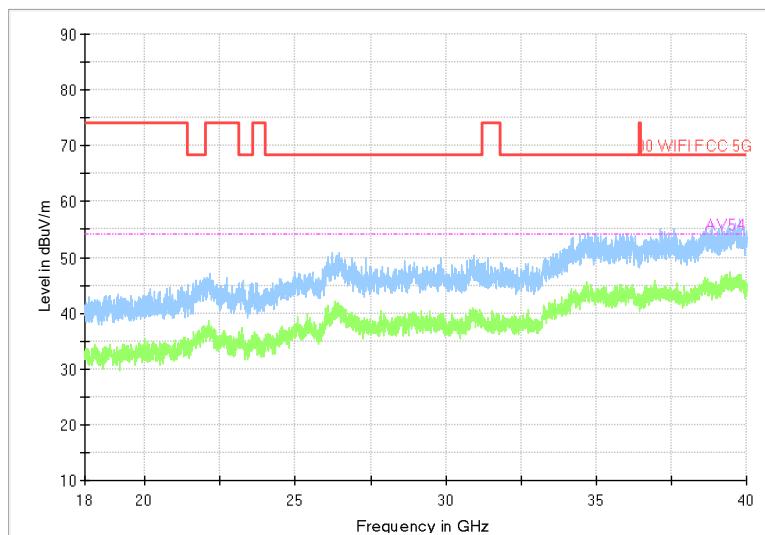
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Full Spectrum



Full Spectrum

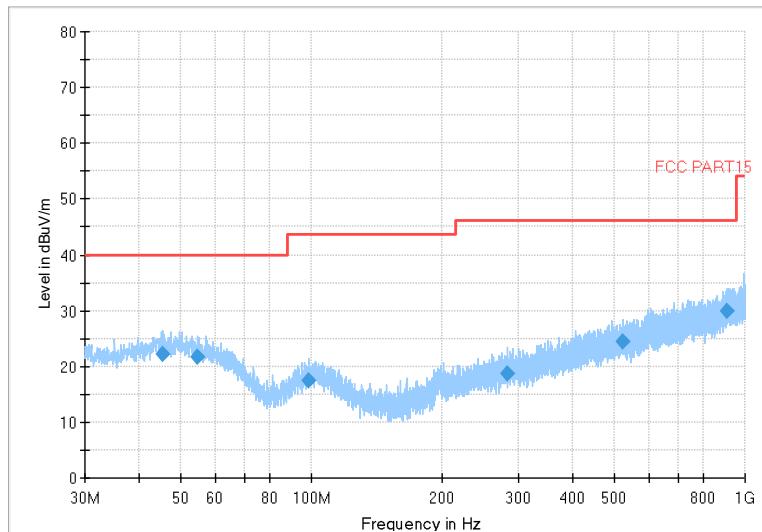




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Test Report No.: PSU-NQN2504020112RF08

Full Spectrum

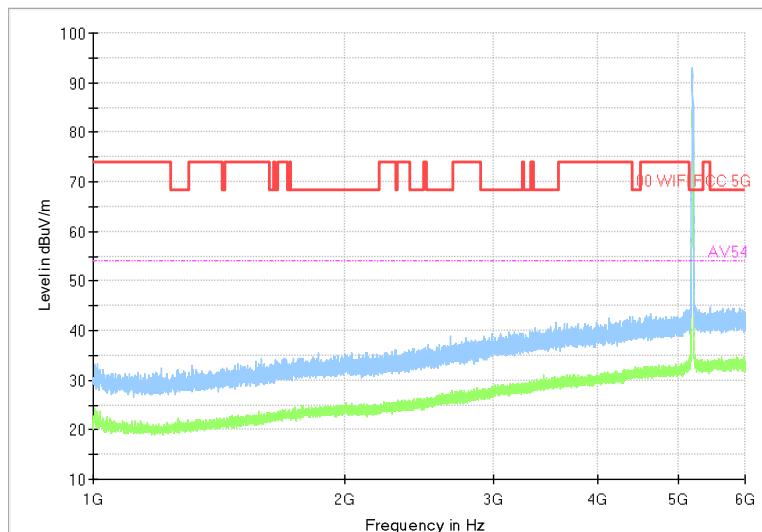


Frequency Range: 30MHz -1GHz

Detector: QP mode

Test Mode: 802.11ac(VHT20)

Full Spectrum



Frequency Range: 1GHz -6GHz

Detector: Av mode and PK mode

Test Mode: 802.11ac(VHT20)

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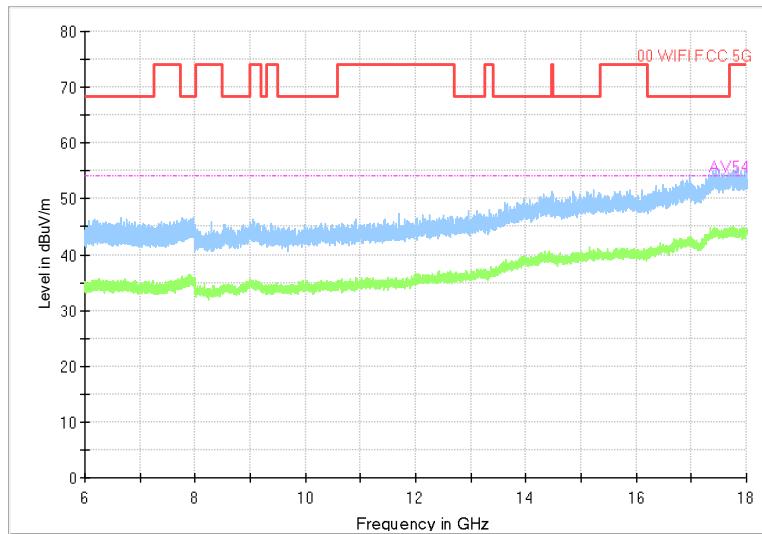
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Test Report No.: PSU-NQN2504020112RF08

Full Spectrum

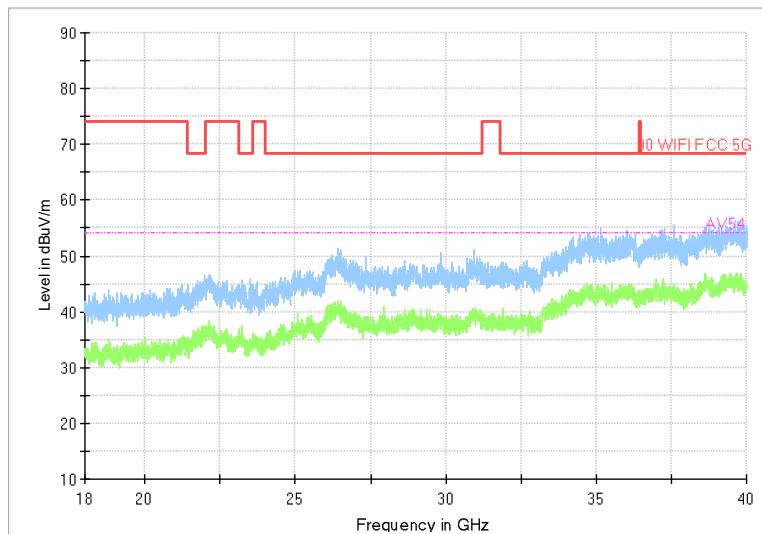


Frequency Range: 6GHz -18GHz

Detector: Av mode and PK mode

Test Mode: 802.11ac(VHT20)

Full Spectrum



Frequency Range: 18GHz -40GHz

Detector: Av mode and PK mode

Test Mode: 802.11ac(VHT20)



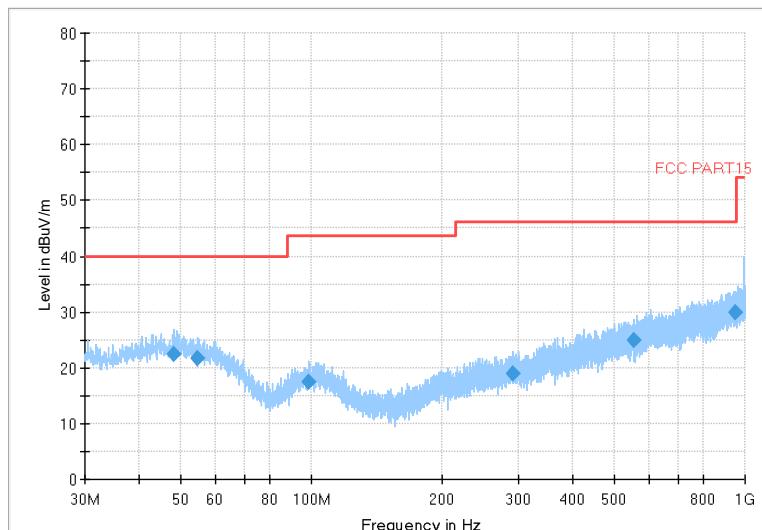
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Test Report No.: PSU-NQN2504020112RF08

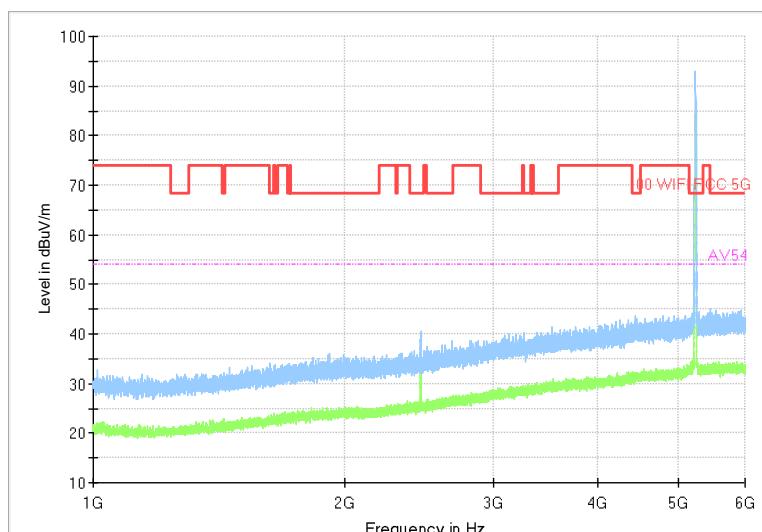
Carrier frequency (MHz): 5240

Channel No.:48

Full Spectrum



Full Spectrum

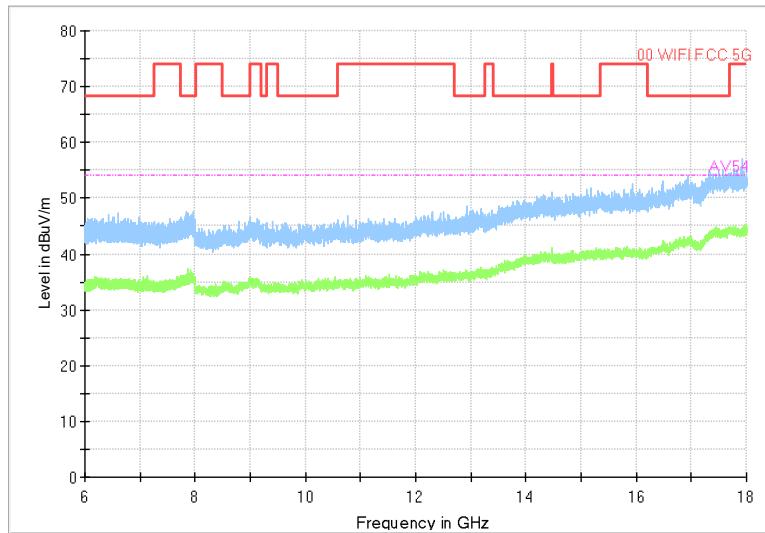




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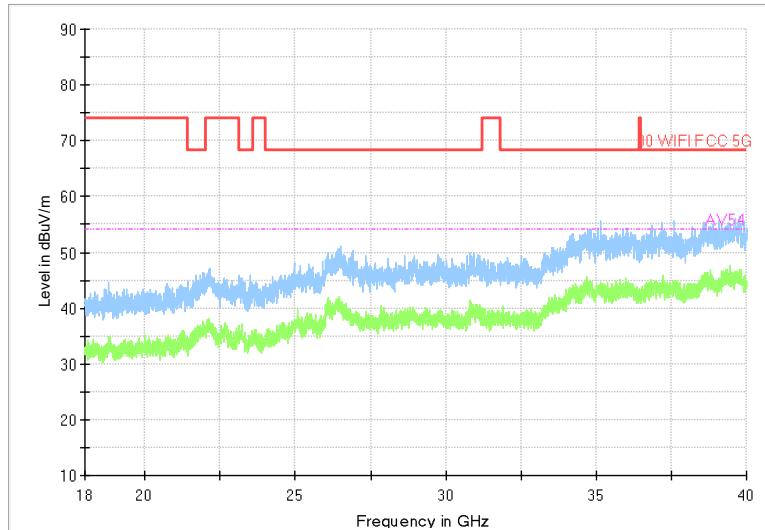
Test Report No.: PSU-NQN2504020112RF08

Full Spectrum



Frequency Range: 6GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11a

Full Spectrum



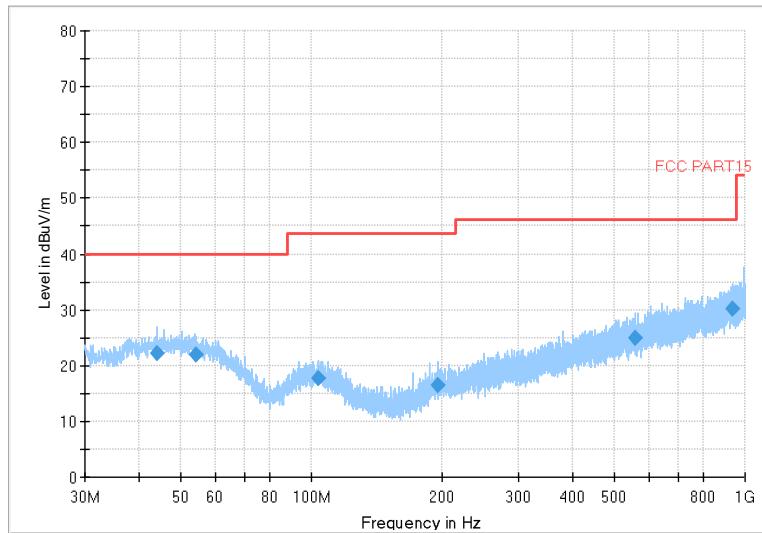
Frequency Range: 18GHz -40GHz
Detector: Av mode and PK mode
Modulation type: 802.11a



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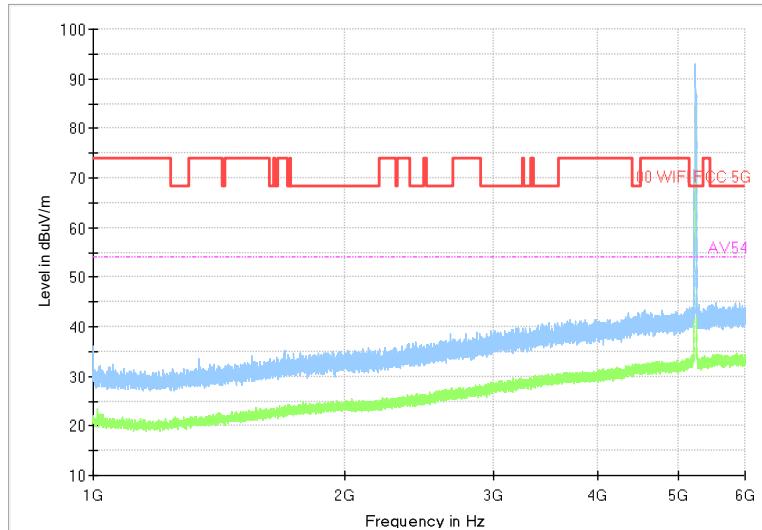
Test Report No.: PSU-NQN2504020112RF08

Full Spectrum



Frequency Range: 30MHz -1GHz
Detector: QP mode
Modulation type: 802.11n(HT20)

Full Spectrum



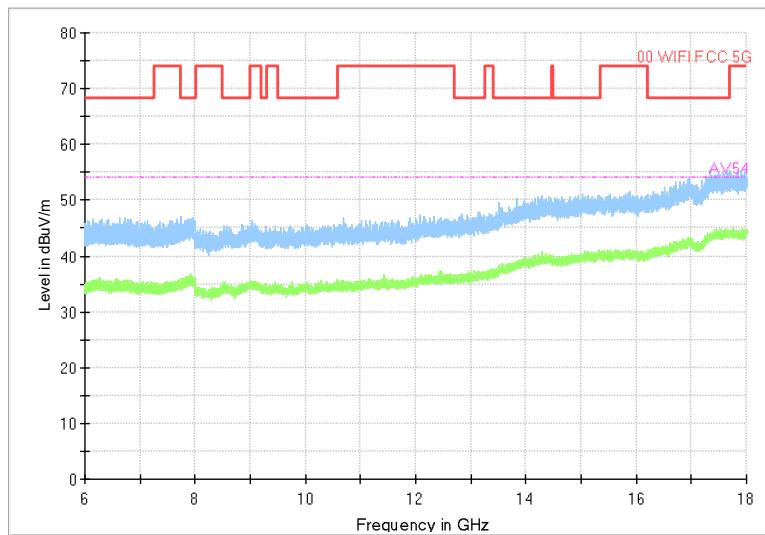
Frequency Range: 1GHz -6GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)



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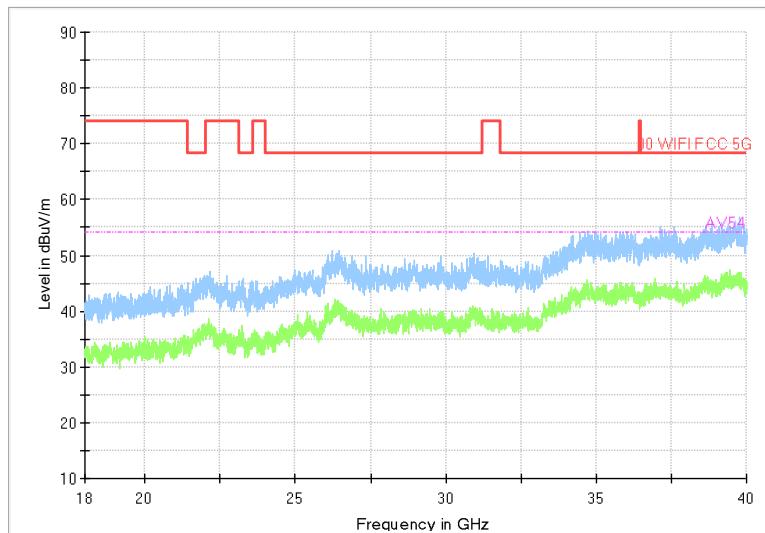
Test Report No.: PSU-NQN2504020112RF08

Full Spectrum



Frequency Range: 6GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)

Full Spectrum



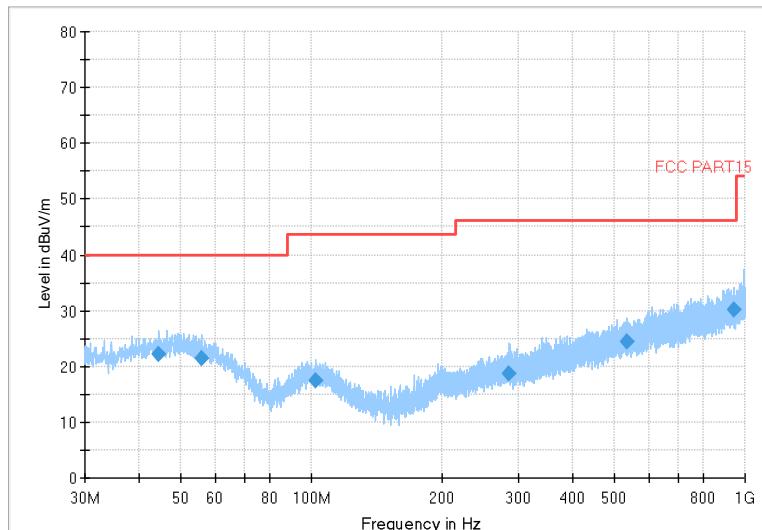
Frequency Range: 18GHz -40GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)



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VERITAS

Test Report No.: PSU-NQN2504020112RF08

Full Spectrum

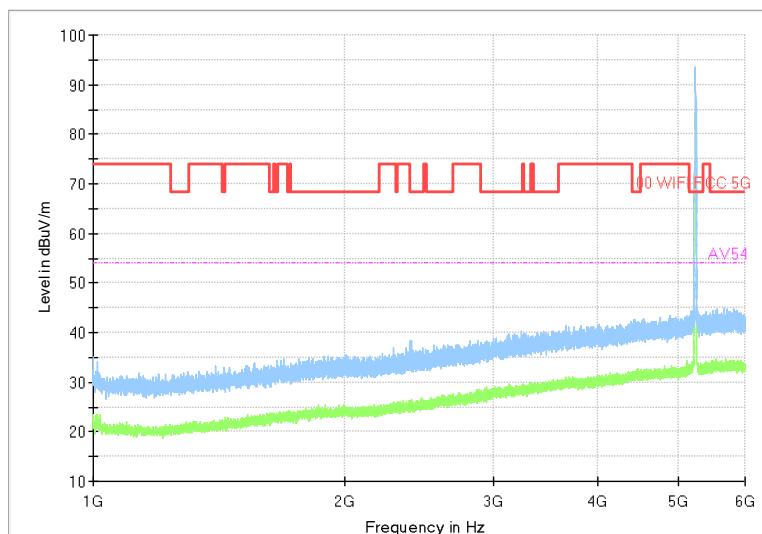


Frequency Range: 30MHz -1GHz

Detector: QP mode

Test Mode: 802.11ac(VHT20)

Full Spectrum



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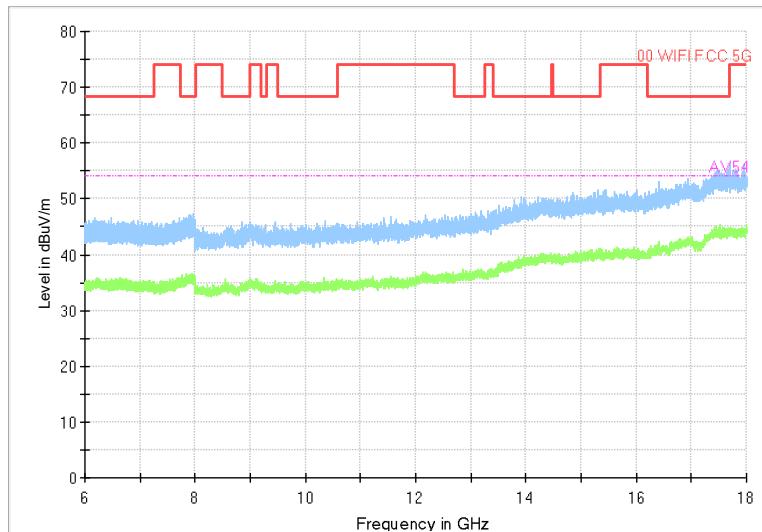
Tel: +86 (0557) 368 1008



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Test Report No.: PSU-NQN2504020112RF08

Full Spectrum

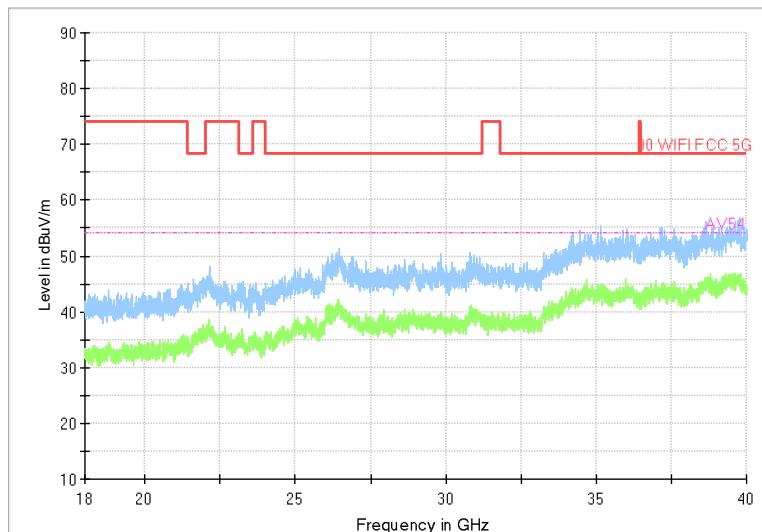


Frequency Range: 6GHz -18GHz

Detector: Av mode and PK mode

Test Mode: 802.11ac(VHT20)

Full Spectrum



Frequency Range: 18GHz -40GHz

Detector: Av mode and PK mode

Test Mode: 802.11ac(VHT20)



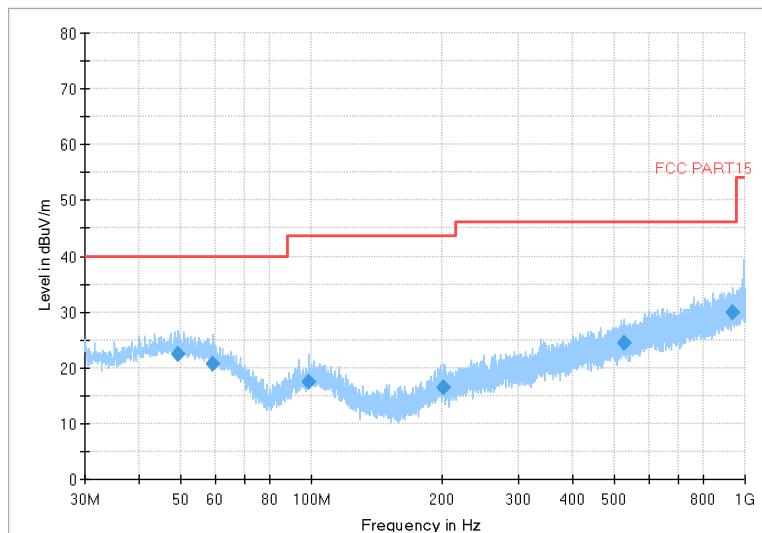
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Test Report No.: PSU-NQN2504020112RF08

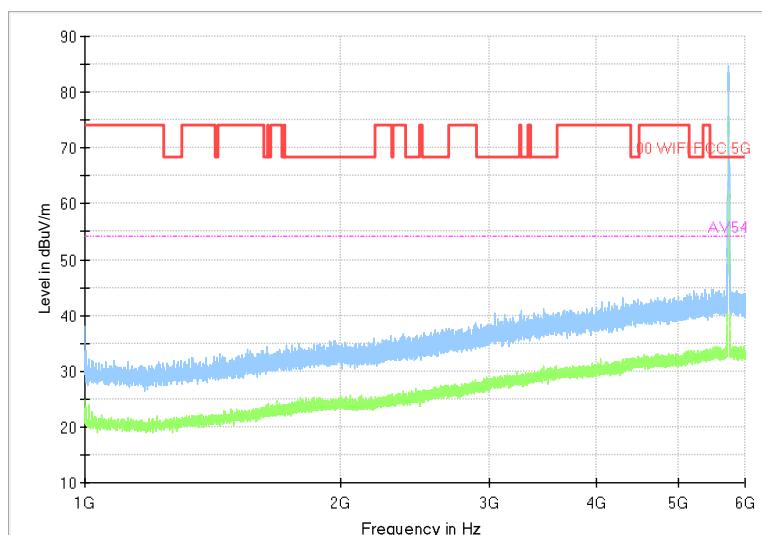
Carrier frequency (MHz): 5745

Channel No.: 149

Full Spectrum



Full Spectrum

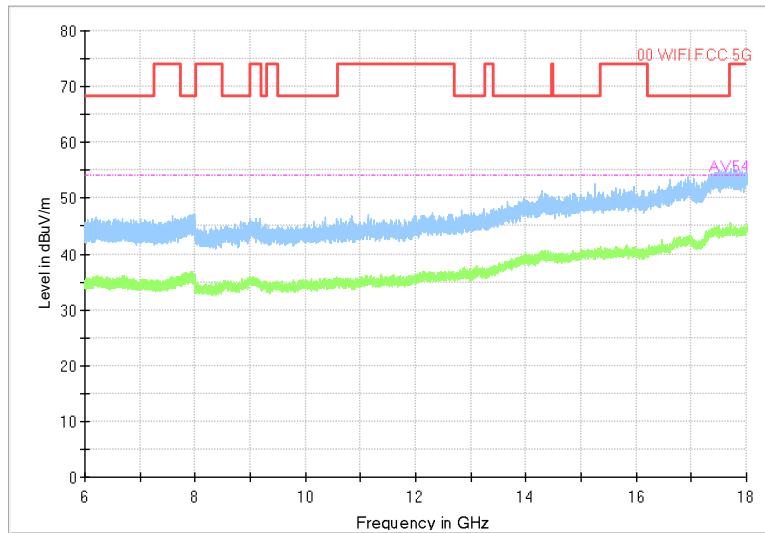




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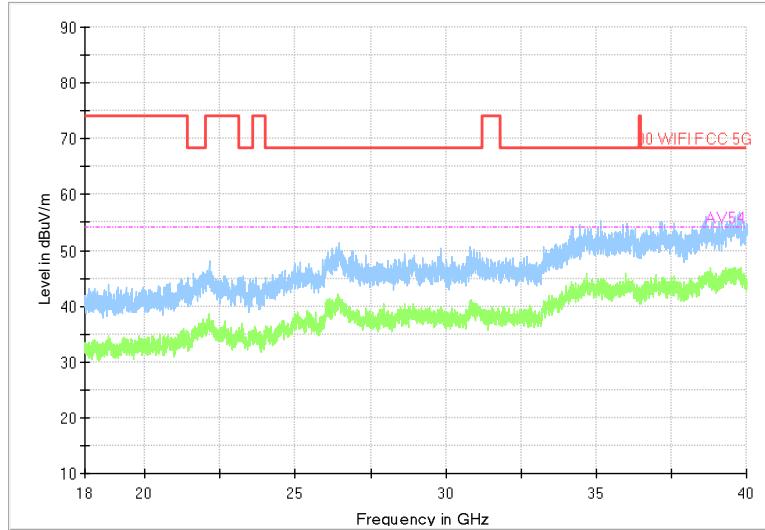
Test Report No.: PSU-NQN2504020112RF08

Full Spectrum



Frequency Range: 6GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11a

Full Spectrum



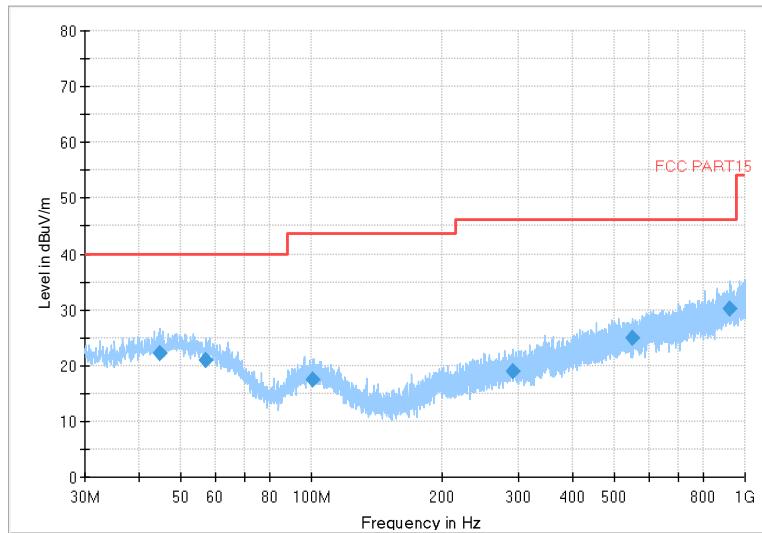
Frequency Range: 18GHz -40GHz
Detector: Av mode and PK mode
Modulation type: 802.11a



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VERITAS

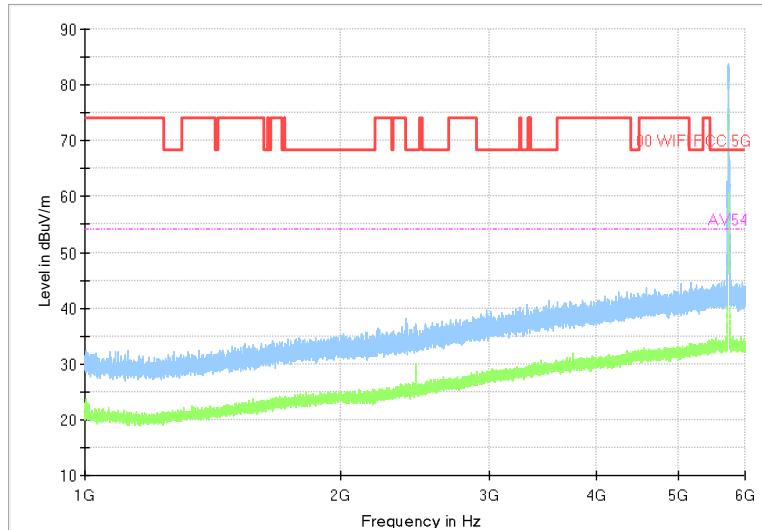
Test Report No.: PSU-NQN2504020112RF08

Full Spectrum



Frequency Range: 30MHz -1GHz
Detector: QP mode
Modulation type: 802.11n(HT20)

Full Spectrum



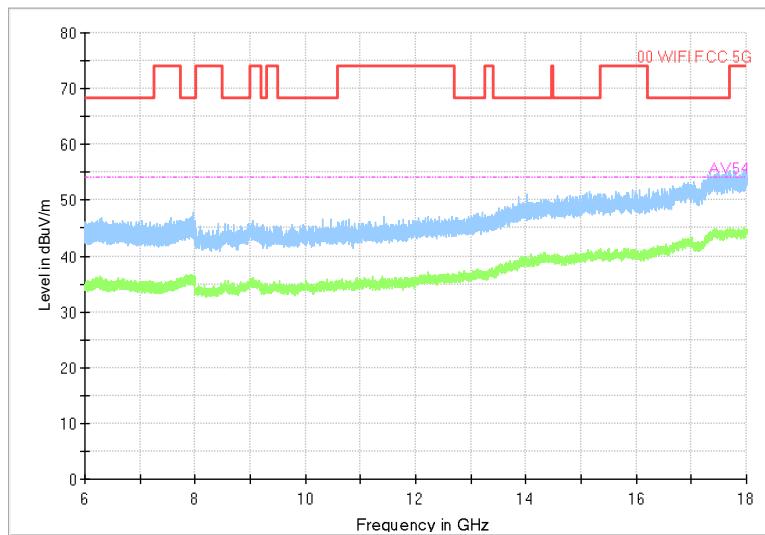
Frequency Range: 1GHz -6GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)



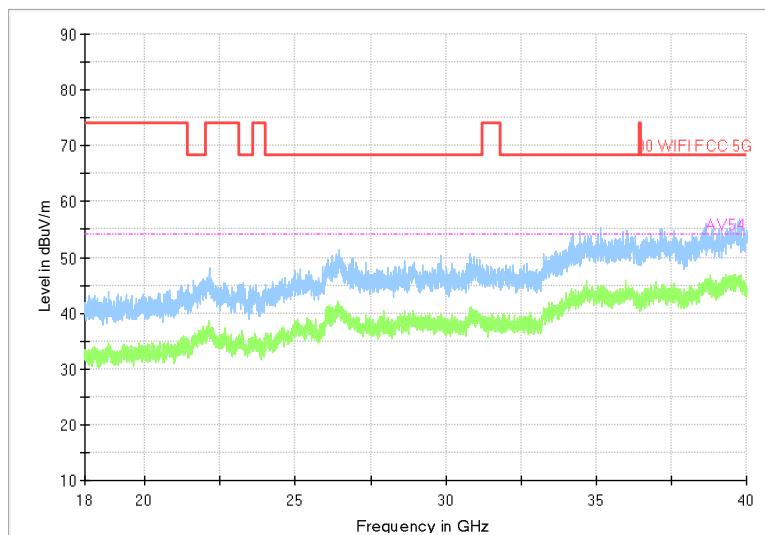
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Test Report No.: PSU-NQN2504020112RF08

Full Spectrum



Full Spectrum

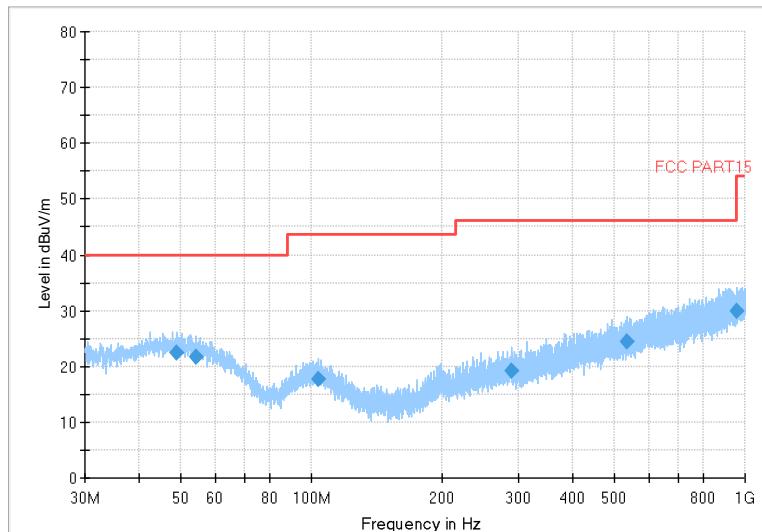




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Test Report No.: PSU-NQN2504020112RF08

Full Spectrum

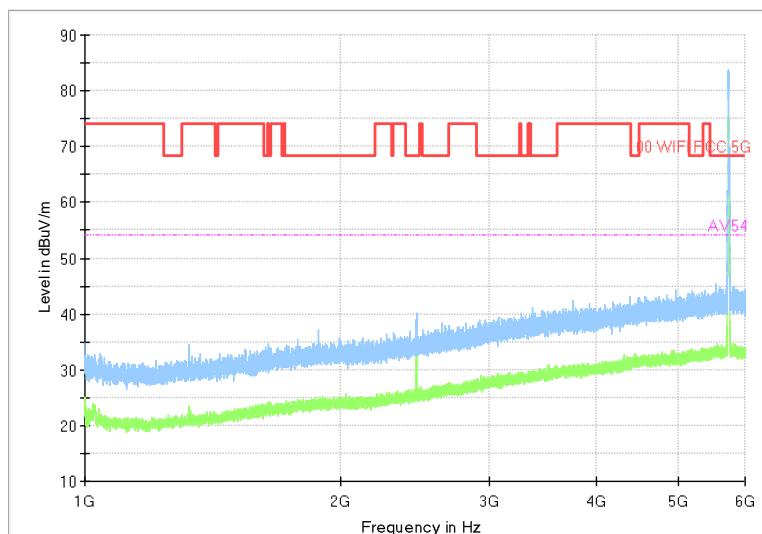


Frequency Range: 30MHz -1GHz

Detector: QP mode

Test Mode: 802.11ac(VHT20)

Full Spectrum



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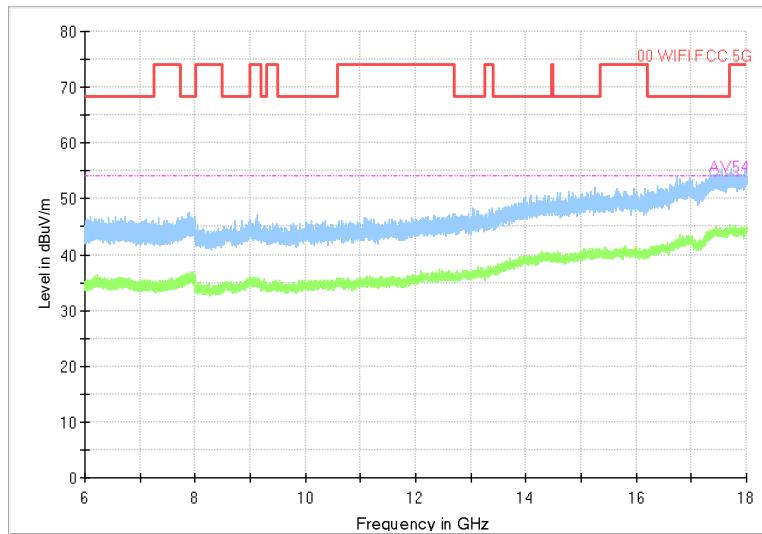
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Test Report No.: PSU-NQN2504020112RF08

Full Spectrum

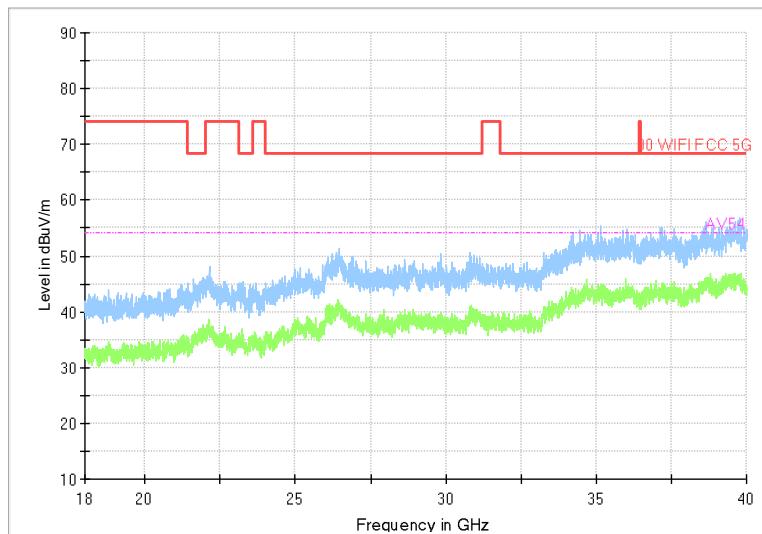


Frequency Range: 6GHz -18GHz

Detector: Av mode and PK mode

Test Mode: 802.11ac(VHT20)

Full Spectrum



Frequency Range: 18GHz -40GHz

Detector: Av mode and PK mode

Test Mode: 802.11ac(VHT20)



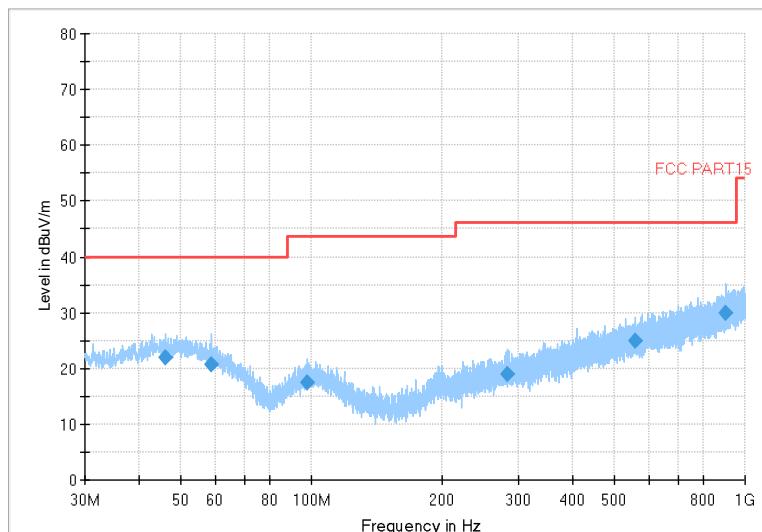
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Test Report No.: PSU-NQN2504020112RF08

Carrier frequency (MHz): 5785

Channel No.: 157

Full Spectrum

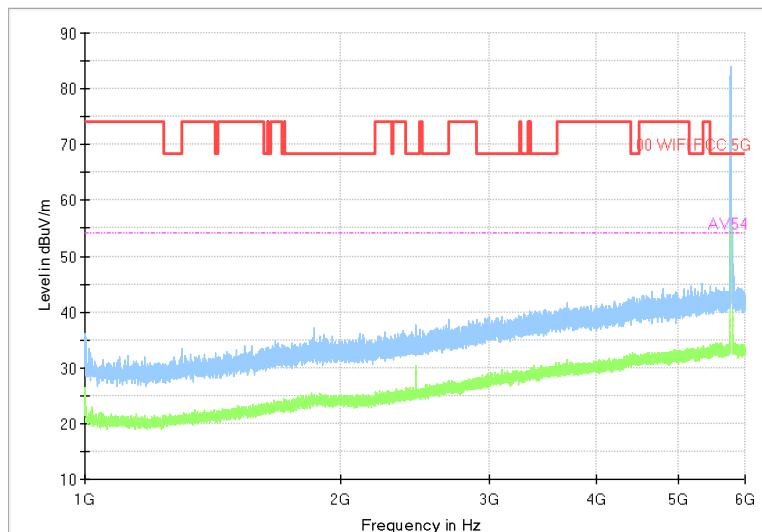


Frequency Range: 30MHz -1GHz

Detector: QP mode

Modulation type: 802.11a

Full Spectrum



Frequency Range: 1GHz -6GHz

Detector: Av mode and PK mode

Modulation type: 802.11a

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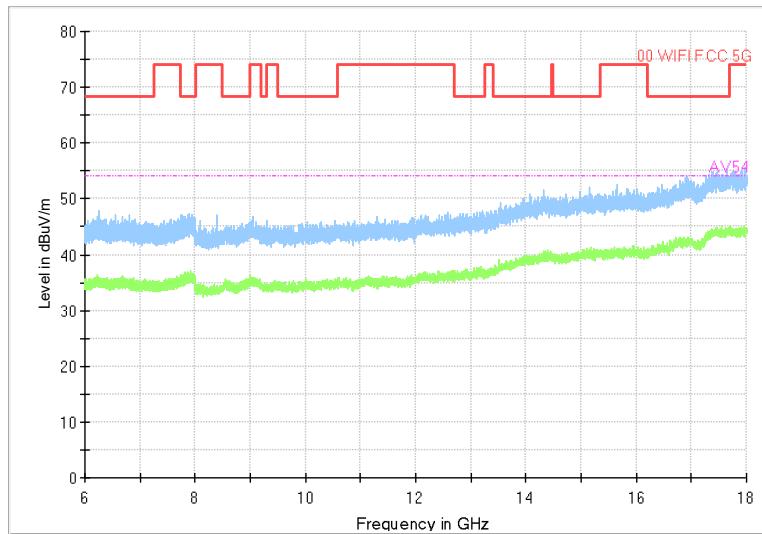
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Test Report No.: PSU-NQN2504020112RF08

Full Spectrum

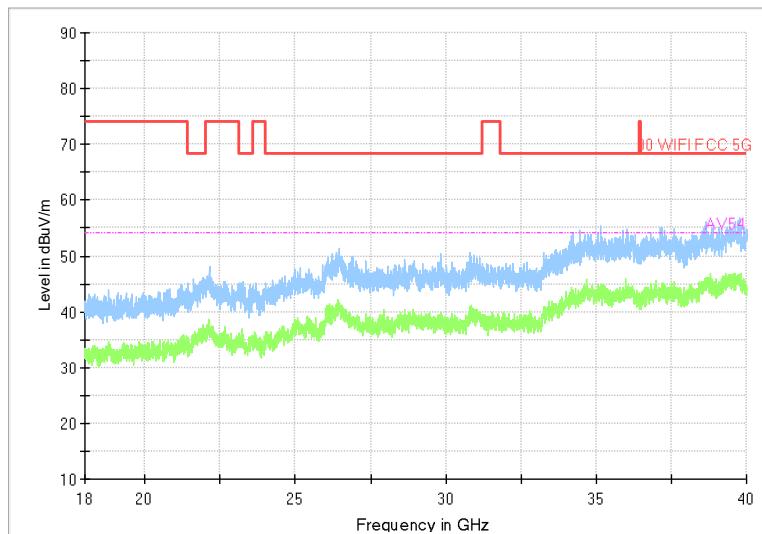


Frequency Range: 6GHz -18GHz

Detector: Av mode and PK mode

Modulation type: 802.11a

Full Spectrum



Frequency Range: 18GHz -40GHz

Detector: Av mode and PK mode

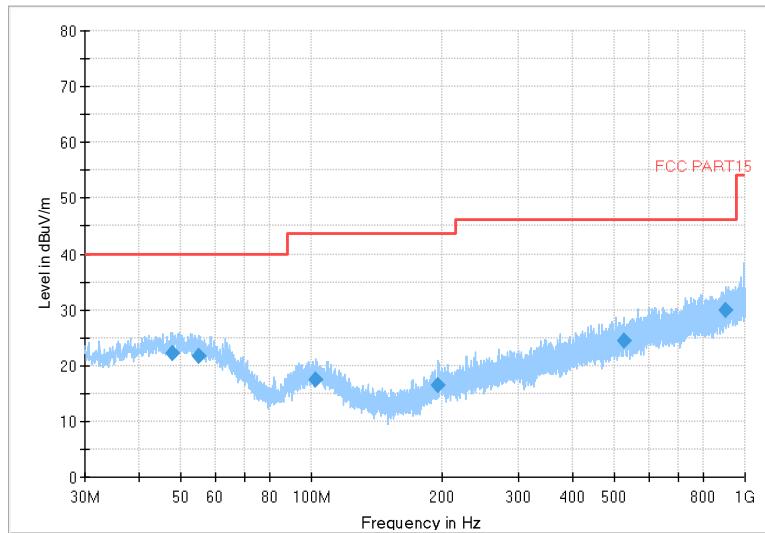
Modulation type: 802.11a



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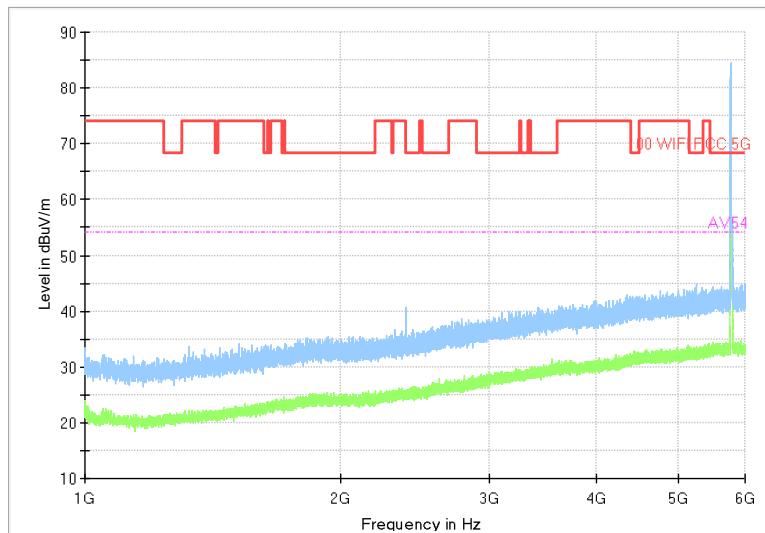
Test Report No.: PSU-NQN2504020112RF08

Full Spectrum



Frequency Range: 30MHz -1GHz
Detector: QP mode
Modulation type: 802.11n(HT20)

Full Spectrum



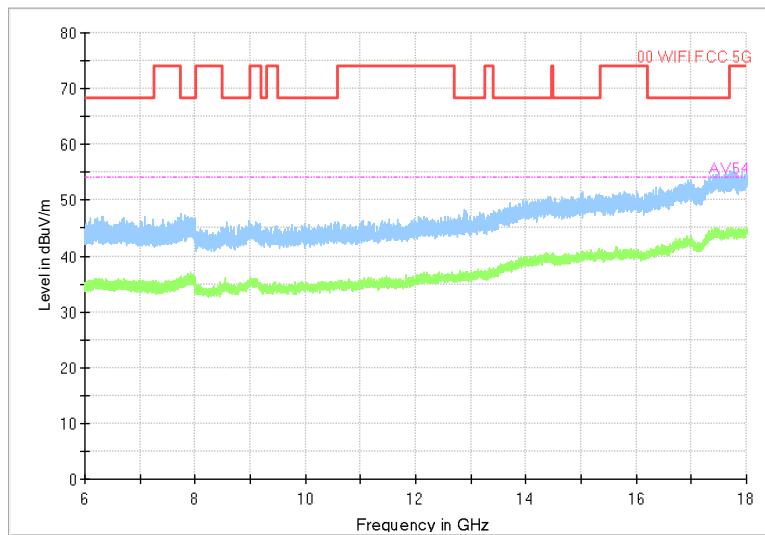
Frequency Range: 1GHz -6GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)



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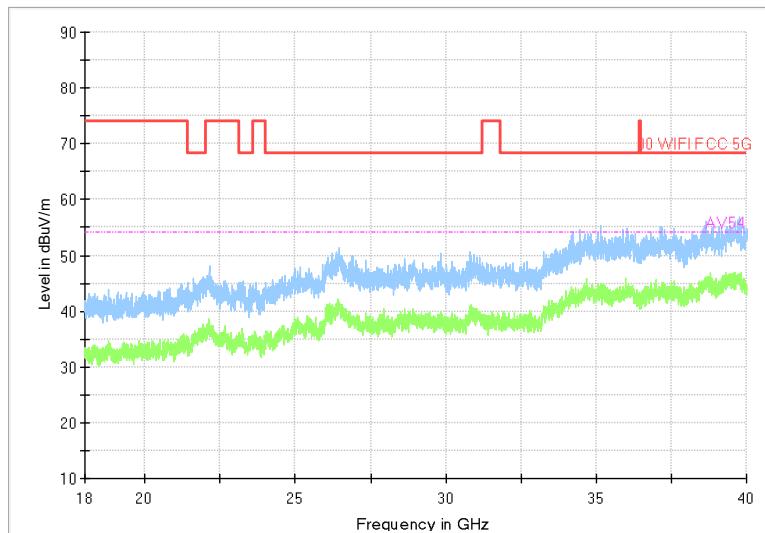
Test Report No.: PSU-NQN2504020112RF08

Full Spectrum



Frequency Range: 6GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)

Full Spectrum



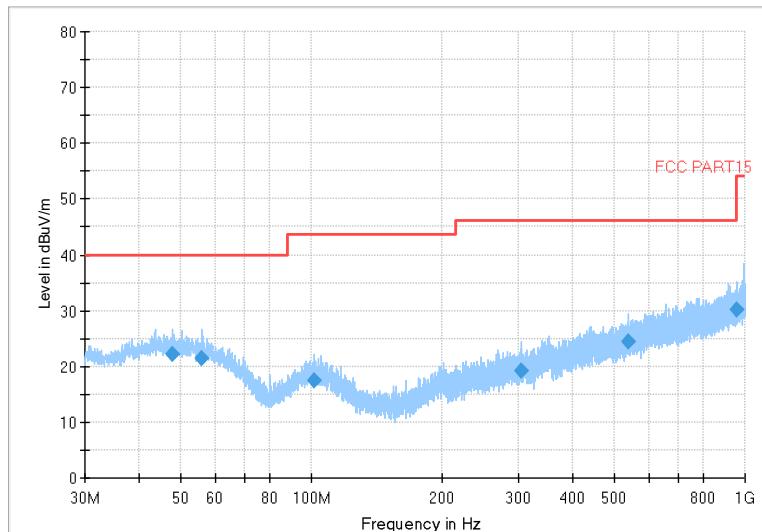
Frequency Range: 18GHz -40GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)



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Test Report No.: PSU-NQN2504020112RF08

Full Spectrum

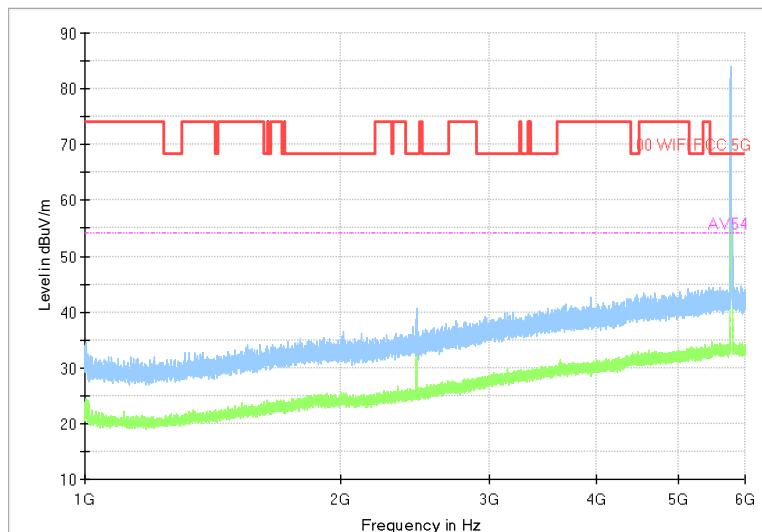


Frequency Range: 30MHz -1GHz

Detector: QP mode

Test Mode: 802.11ac(VHT20)

Full Spectrum



Frequency Range: 1GHz -6GHz

Detector: Av mode and PK mode

Test Mode: 802.11ac(VHT20)

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(Suzhou) Co., Ltd.

Tower N, Innovation Center, 88 Zuyi Road, High-tech
District, Suzhou City, Anhui Province

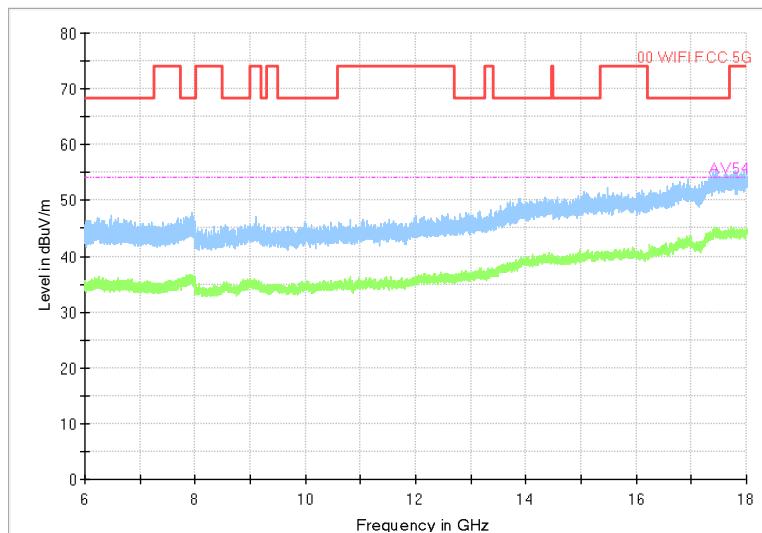
Tel: +86 (0557) 368 1008



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Test Report No.: PSU-NQN2504020112RF08

Full Spectrum

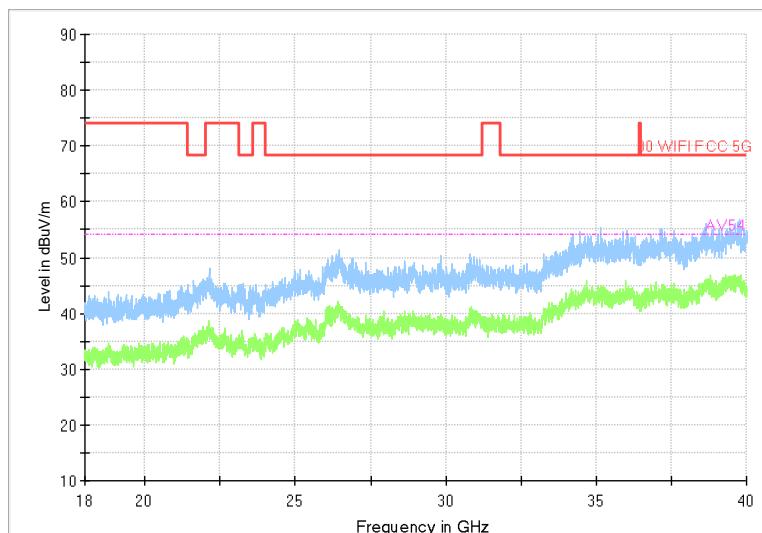


Frequency Range: 6GHz -18GHz

Detector: Av mode and PK mode

Test Mode: 802.11ac(VHT20)

Full Spectrum



Frequency Range: 18GHz -40GHz

Detector: Av mode and PK mode

Test Mode: 802.11ac(VHT20)

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(Suzhou) Co., Ltd.

Tower N, Innovation Center, 88 Zuyi Road, High-tech
District, Suzhou City, Anhui Province

Tel: +86 (0557) 368 1008



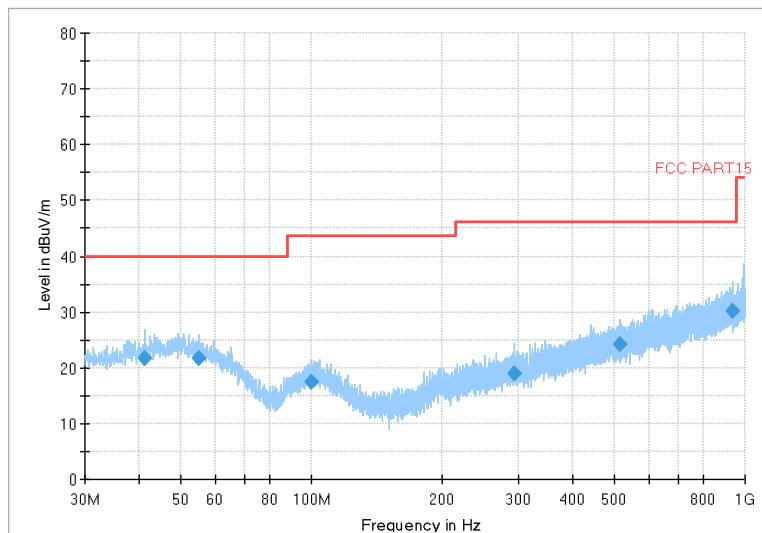
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Carrier frequency (MHz): 5825

Channel No.: 165

Full Spectrum

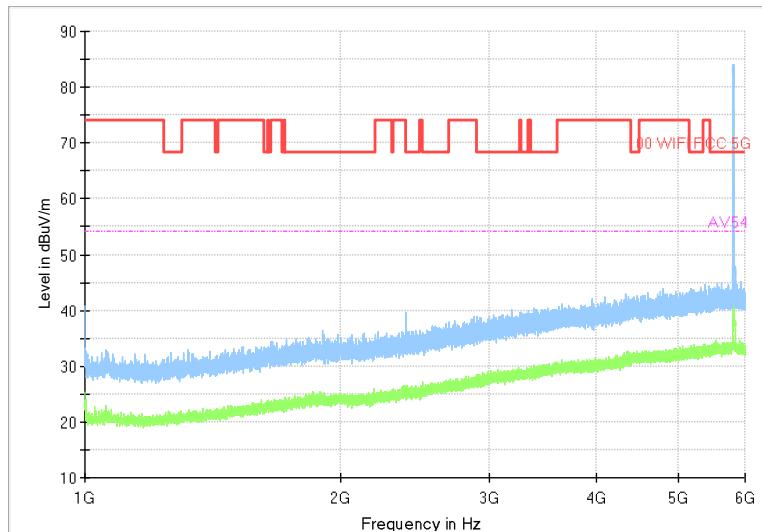


Frequency Range: 30MHz -1GHz

Detector: QP mode

Modulation type: 802.11a

Full Spectrum

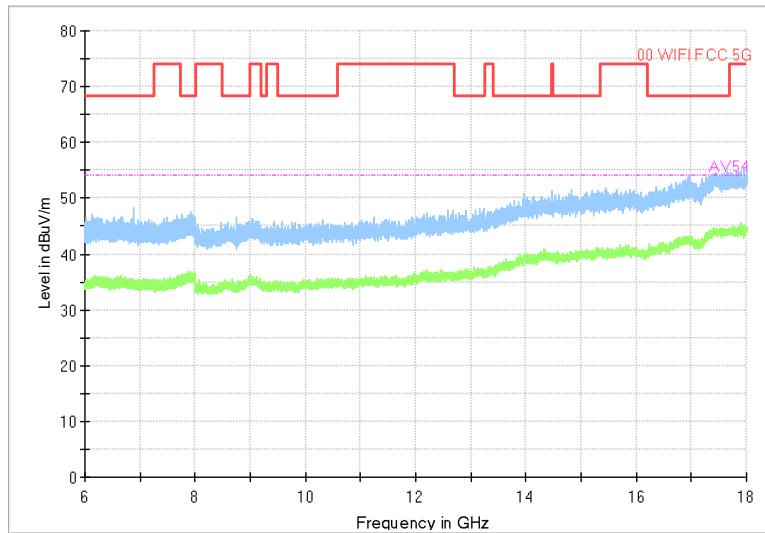




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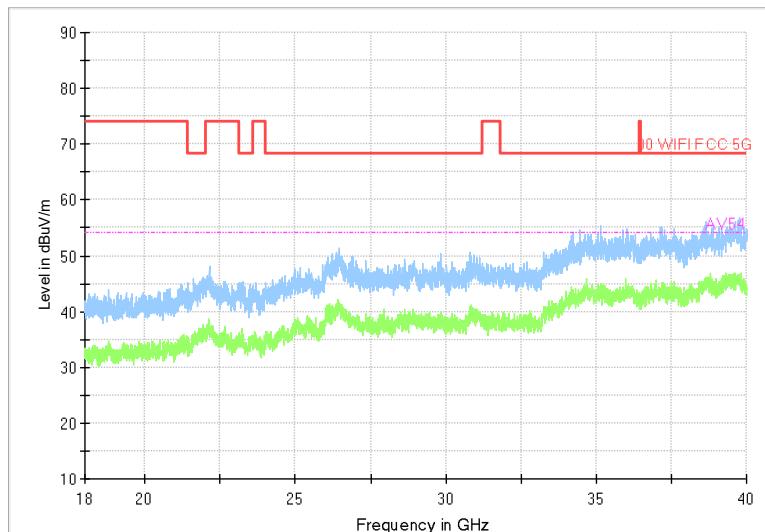
Test Report No.: PSU-NQN2504020112RF08

Full Spectrum



Frequency Range: 6GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11a

Full Spectrum



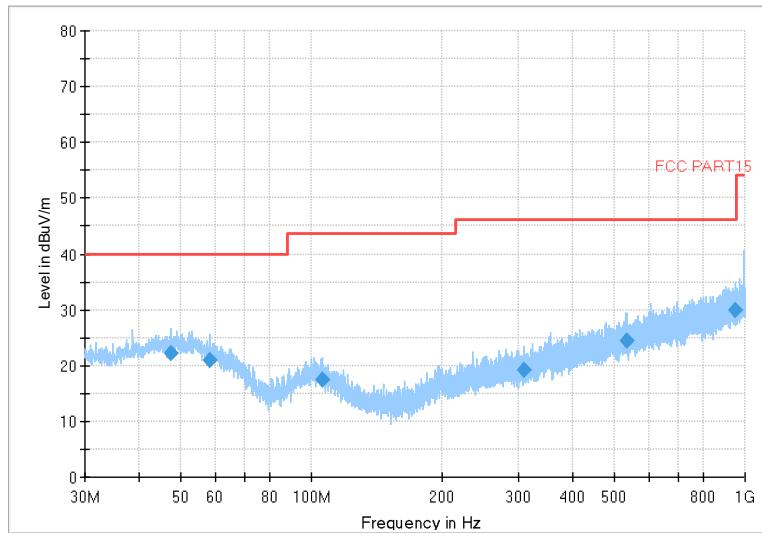
Frequency Range: 18GHz -40GHz
Detector: Av mode and PK mode
Modulation type: 802.11a



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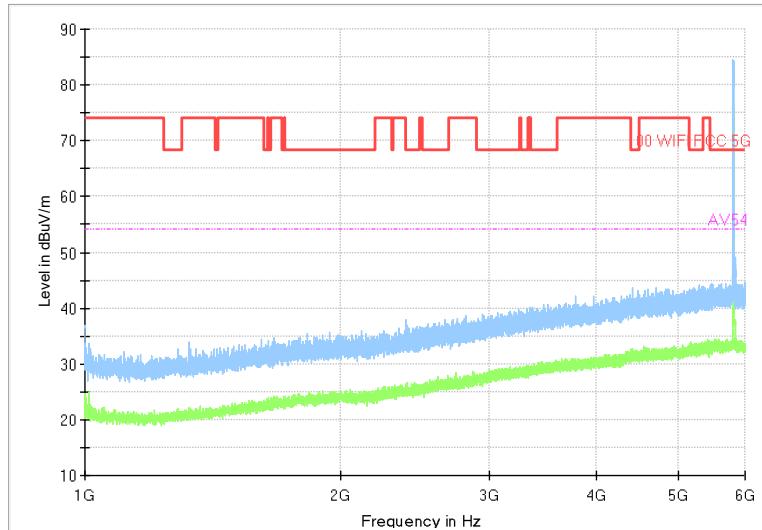
Test Report No.: PSU-NQN2504020112RF08

Full Spectrum



Frequency Range: 30MHz - 1GHz
Detector: QP mode
Modulation type: 802.11n(HT20)

Full Spectrum



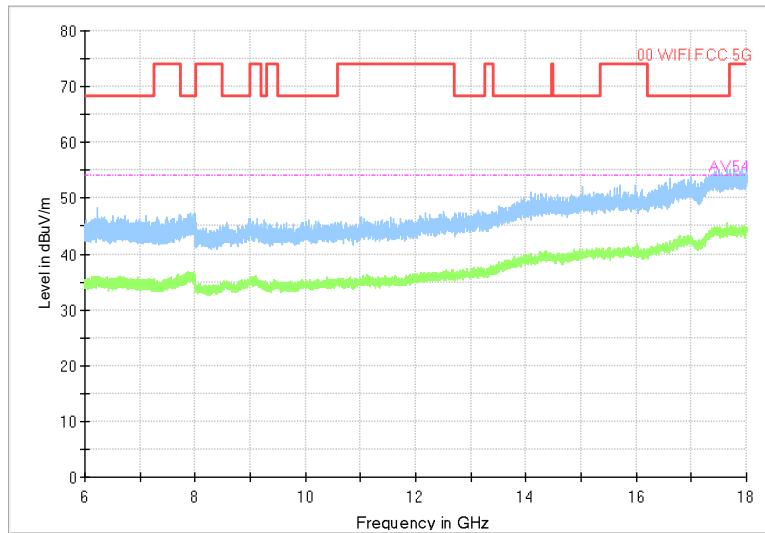
Frequency Range: 1GHz - 6GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)



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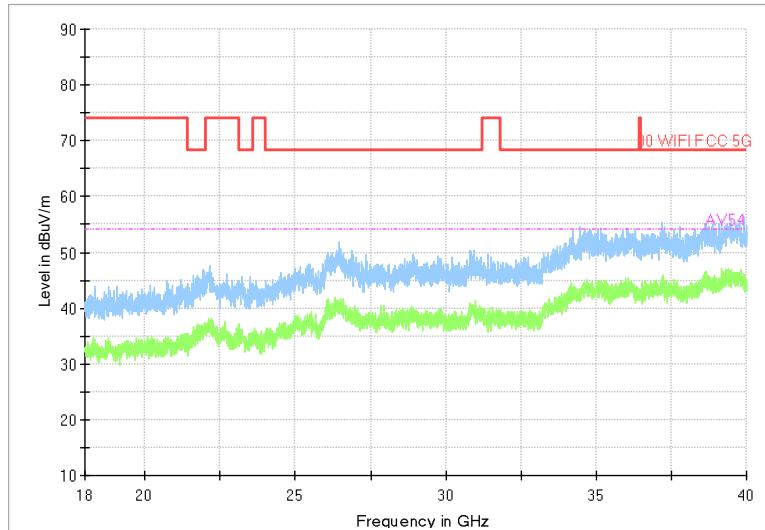
Test Report No.: PSU-NQN2504020112RF08

Full Spectrum



Frequency Range: 6GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)

Full Spectrum



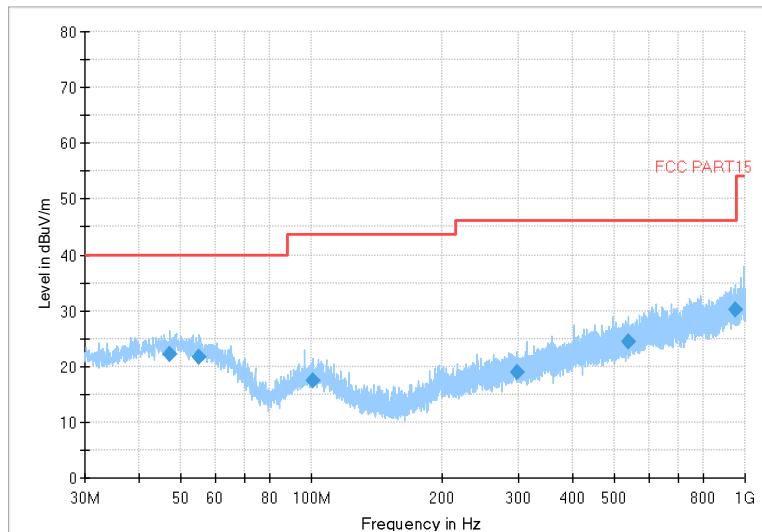
Frequency Range: 18GHz -40GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)



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Test Report No.: PSU-NQN2504020112RF08

Full Spectrum

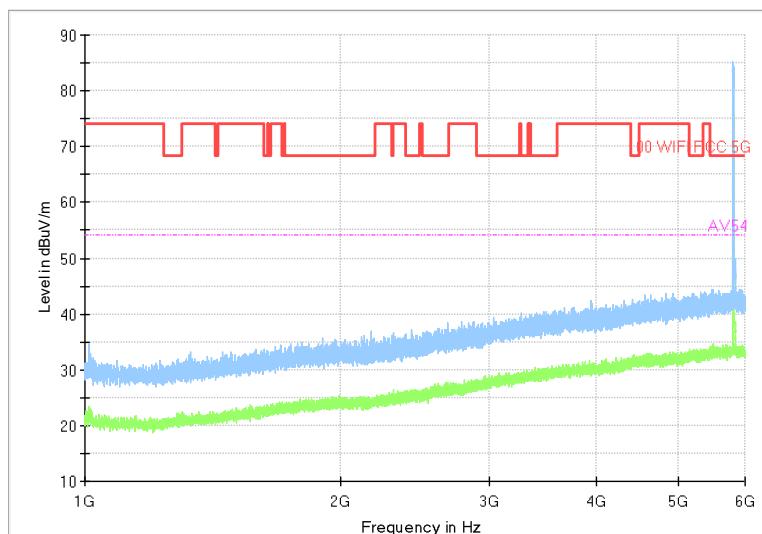


Frequency Range: 30MHz -1GHz

Detector: QP mode

Test Mode: 802.11ac(VHT20)

Full Spectrum



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(Suzhou) Co., Ltd.

Tower N, Innovation Center, 88 Zuyi Road, High-tech
District, Suzhou City, Anhui Province

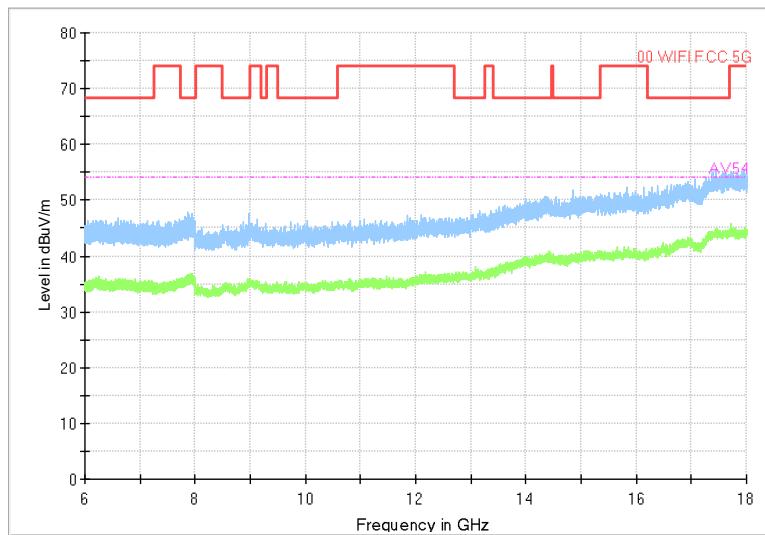
Tel: +86 (0557) 368 1008



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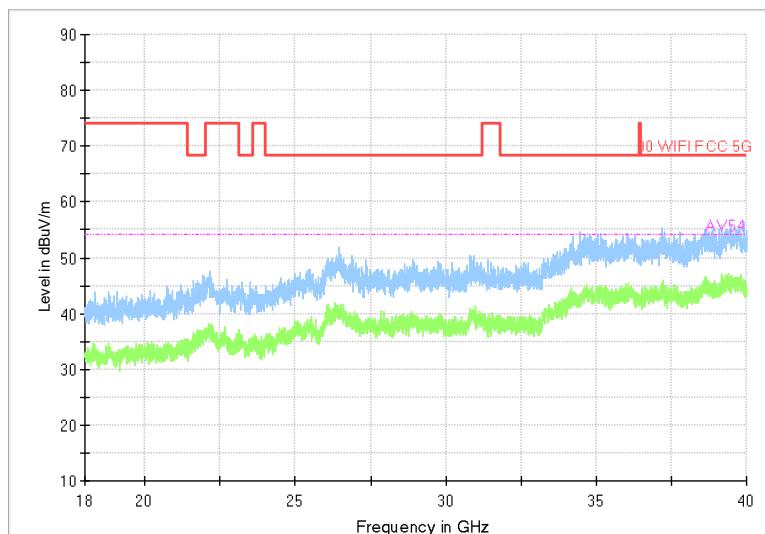
Test Report No.: PSU-NQN2504020112RF08

Full Spectrum



Frequency Range: 6GHz -18GHz
Detector: Av mode and PK mode
Test Mode: 802.11ac(VHT20)

Full Spectrum



Frequency Range: 18GHz -40GHz
Detector: Av mode and PK mode
Test Mode: 802.11ac(VHT20)



3.2 CONDUCTED EMISSION MEASUREMENT

3.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB μ V)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

NOTE: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

3.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR3	102749	Mar.28,24	Mar.27,26
ELEKTRA test software	Rohde&Schwarz	ELEKTRA	NA	N/A	N/A
LISN network	Rohde&Schwarz	ENV216	102640	Mar.28,24	Mar.27,26
CABLE	Rohde&Schwarz	W61.01	N/A	Apr.27,25	Apr.26,26
CABLE	Rohde&Schwarz	W601	N/A	Apr.27,25	Apr.26,26

NOTE:

1. The test was performed in CE shielded room.
2. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to CEPREI/CHINA, GRRG/CHINA and NIM/CHINA.

3.2.3 TEST PROCEDURES

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.



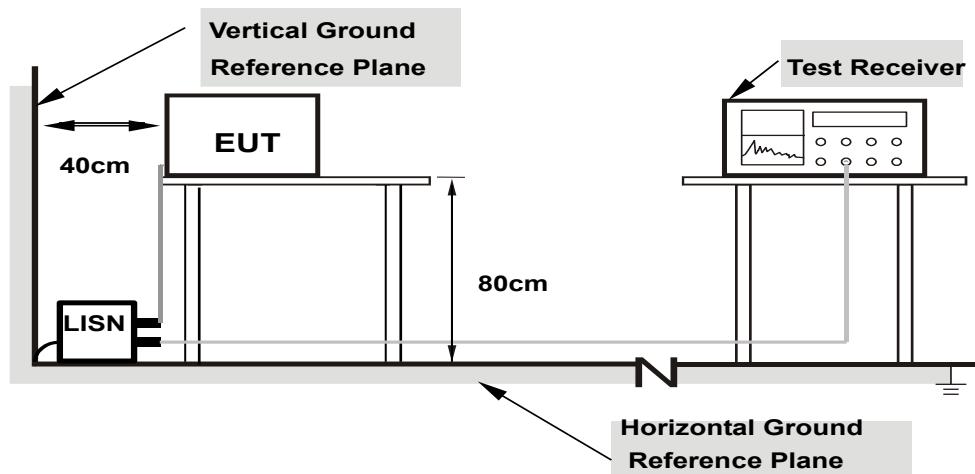
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Test Report No.: PSU-NQN2504020112RF08

3.2.4 DEVIATION FROM TEST STANDARD

No deviation.

3.2.5 TEST SETUP



Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.2.6 EUT OPERATING CONDITIONS

Same as 3.1.7.



3.2.7 TEST RESULTS

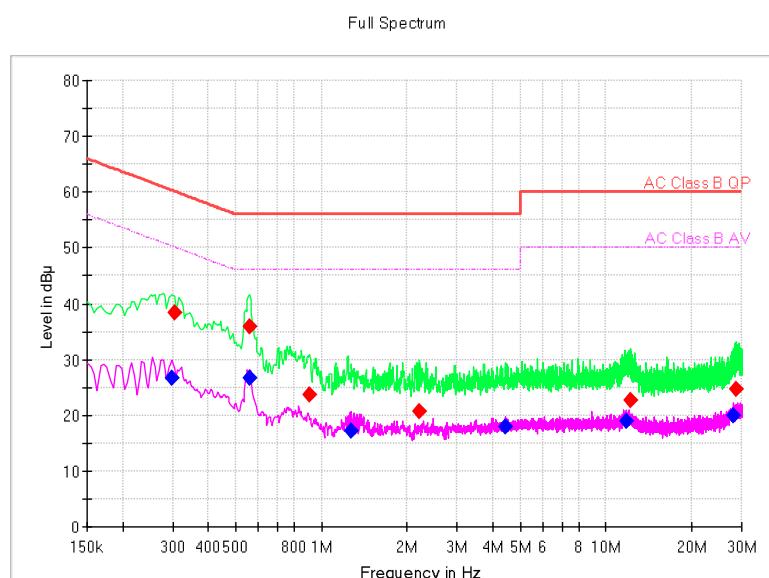
AC Power line Conducted Emission

A “reference path loss” Corr.(dB) is established and the $L_{\text{cable}} + \text{ATT} + \text{VDF}$ is the attenuation of “reference path loss”, and including the cable loss, the attenuation of the attenuator, the voltage division factor of AMN.

The measurement results are obtained as described below:

$$P_{\text{result}} = P_{\text{mea}} + \text{Corr.}(dB)$$

Sample calculation: $(26.74 \text{ dB}\mu\text{V}) = (-2.86 \text{ dB}\mu\text{V}) + (29.6 \text{ dB})$, the corresponding frequency is 0.256607MHz.



L+N Line



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Test Report No.: PSU-NQN2504020112RF08

MEASUREMENT RESULT:

Frequency (MHz)	QuasiP eak (dB μ V)	Average (dB μ V)	Limit (dB μ V)	Margin (dB)	Line	Corr. (dB)	Pmea QuasiP eak (dB μ V)	Pmea Average (dB μ V)
0.29925	---	26.74	50.26	23.53	L1	29.6	---	-2.86
0.30364	38.42	---	60.14	21.73	L1	29.6	8.82	---
0.558243	---	26.61	46	19.39	L1	29.6	---	-2.99
0.558243	35.79	---	56	20.21	L1	29.6	6.19	---
0.909419	23.62	---	56	32.38	L1	29.6	-5.98	---
1.273765	---	17.18	46	28.82	L1	29.6	---	-12.42
2.217551	20.67	---	56	35.33	L1	29.6	-8.93	---
4.443132	---	17.93	46	28.07	L1	29.7	---	-11.77
11.730044	---	18.92	50	31.08	L1	29.9	---	-10.98
12.204132	22.67	---	60	37.33	L1	29.9	-7.23	---
28.033412	---	19.85	50	30.15	L1	30.6	---	-10.75
28.700647	24.65	---	60	35.35	L1	30.7	-6.05	---



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Test Report No.: PSU-NQN2504020112RF08

3.3 MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

3.3.1 LIMITS OF MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

Operation Band	EUT Category		LIMIT
U-NII-1	Outdoor Access Point		1 Watt (30 dBm) (Max. e.i.r.p \leq 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
	Fixed point-to-point Access Point		1 Watt (30 dBm)
	B	Indoor Access Point	1 Watt (30 dBm)
	\checkmark	Client devices	250mW (24 dBm)
U-NII-3	\checkmark		1 Watt (30 dBm)

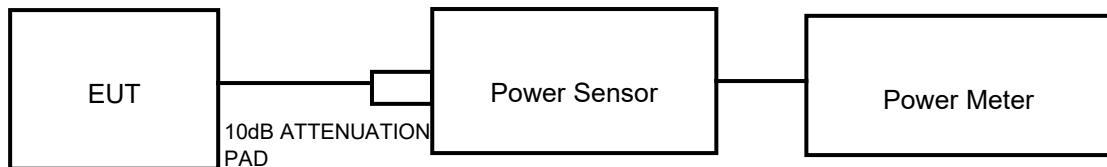
NOTE: Where B is the 26dB emission bandwidth in MHz.



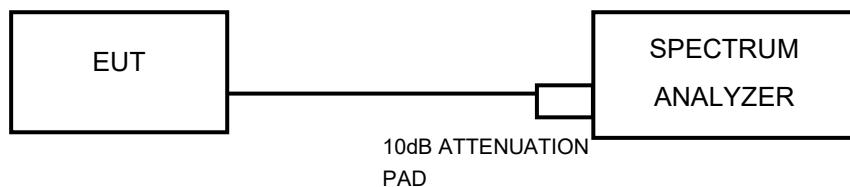
3.3.2 TEST SETUP

FOR POWER OUTPUT MEASUREMENT

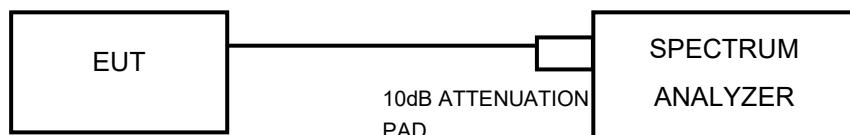
802.11a, 802.11n/ac/ax (20MHz), 802.11 n/ac/ax (40MHz) TEST CONFIGURATION



802.11ac/ax (80MHz) TEST CONFIGURATION



FOR 26dB BANDWIDTH



3.3.3 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	R&S	ESW 44	101973	Mar.28,24	Mar.27,26
Open Switch and Control Unit	R&S	OSP-B157W8	100836	N/A	N/A
Vector Signal Generator	R&S	SMBV100B	102176	Mar.29,24	Mar.28,26
Signal Generator	R&S	SMB100A03	182185	Mar.29,24	Mar.28,26
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.19,24	Jun.18,26
Hygrothermograph	DELI	20210528	SZ015	Sep.06,23	Sep.05,25
PC	LENOVO	E14	HRSW0024	N/A	N/A
CABLE	R&S	J12J103539-00 -1	SEP-03-20-0 69	Apr.27,25	Apr.26,26
CABLE	R&S	J12J103539-00	SEP-03-20-0	Apr.27,25	Apr.26,26



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Test Report No.: PSU-NQN2504020112RF08

		-1	70		
Test Software	EMC32	EMC32	N/A	N/A	N/A
Temperature Chamber	votsch	VT4002	5856607810 0050	May.30,24	May.29,26
Power Meter	R&S	NRX	102380	Mar.28,24	Mar.27,26
Power Meter probe	R&S	NRP6A	102942	Mar.28,24	Mar.27,26

NOTE:

1. The calibration interval of the above test instruments is 12/24 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in RF Oven room.



3.3.4 TEST PROCEDURE

FOR POWER MEASUREMENT

For 802.11a, 802.11 n/ac/ax (20MHz), 802.11 n/ac/ax (40MHz)

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

For 802.11ac/ax (80MHz)

1. Measure the duty cycle, x , of the transmitter output signal as described in II.B.
2. Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
3. Set RBW = 1 MHz.
4. Set VBW \geq 3 MHz.
5. Number of points in sweep $\geq 2 \times$ span / RBW. (This ensures that bin-to-bin spacing is \leq RBW/2, so that narrowband signals are not lost between frequency bins.)
6. Sweep time = auto.
7. Detector = power averaging (rms), if available. Otherwise, use sample detector mode.
8. Do not use sweep triggering. Allow the sweep to “free run.”
9. Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
10. Add $10 \log (1/x)$, where x is the duty cycle, to the measured power to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add $10 \log (1/0.25) = 6$ dB if the duty cycle is 25%.



FOR 99 PERCENT OCCUPIED BANDWIDTH

The following procedure shall be used for measuring (99 %) power bandwidth:

1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW $\geq 3 \cdot$ RBW
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
6. Use the 99 % power bandwidth function of the instrument (if available).
7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

FOR 26dB BANDWIDTH

- 1) Set RBW = approximately 1% of the emission bandwidth.
- 2) Set the VBW $>$ RBW.
- 3) Detector = Peak.
- 4) Trace mode = max hold.
- 5) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

FOR 6dB BANDWIDTH

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



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3.3.5 DEVIATION FROM TEST STANDARD

No deviation.

3.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.



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3.3.7 TEST RESULTS

Please Refer to Appendix Of this test report.



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Test Report No.: PSU-NQN2504020112RF08

3.4 MAXIMUM POWER SPECTRAL DENSITY MEASUREMENT

3.4.1 LIMITS OF MAXIMUM POWER SPECTRAL DENSITY MEASUREMENT

Operation Band	EUT Category		LIMIT	
U-NII-1	Outdoor Access Point		17dBm/ MHz	
	Fixed point-to-point Access Point			
	Indoor Access Point			
✓	Client devices		11dBm/ MHz	
U-NII-3	✓		30dBm/ 500kHz	

3.4.2 TEST SETUP



3.4.3 TEST INSTRUMENTS

Refer to section 3.3.3 to get information of above instrument.



3.4.4 TEST PROCEDURES

Using method SA-2(Band1/2/3)

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 1 MHz, Set VBW \geq 3 MHz, Detector = RMS
- 3) Set Channel power measure = 1MHz
- 4) Sweep time = auto, trigger set to “free run”.
- 5) Trace average at least 100 traces in power averaging mode.
- 6) Add $10 \log (1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission).
- 7) Record the max value

Using method SA-2 (Band4)

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 300 KHz, Set VBW \geq 1 MHz, Detector = RMS
- 3) Set Channel power measure = 1MHz
- 4) Sweep time = auto, trigger set to “free run”.
- 5) Trace average at least 100 traces in power averaging mode.
- 6) Add $10 \log(500\text{kHz}/\text{RBW})$ to the test result. $10 \log(500\text{kHz}/300\text{KHz}) = 2.22\text{dBm}$
- 7) Add $10 \log (1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission).
- 8) Record the max value

3.4.5 DEVIATION FROM TEST STANDARD

No deviation.

3.4.6 EUT OPERATING CONDITIONS

Same as 3.1.7.



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3.4.7 TEST RESULTS

Please Refer to Appendix Of this test report.



3.5 AUTOMATICALLY DISCONTINUE TRANSMISSION

3.5.1 LIMIT OF AUTOMATICALLY DISCONTINUE TRANSMISSION

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

3.5.2 TEST INSTRUMENTS

Refer to section 3.3.3 to get information of above instrument.

3.5.3 TEST RESULT

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission



3.6 ANTENNA REQUIREMENTS

3.6.1 STANDARD APPLICABLE

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.6.2 ANTENNA CONNECTED CONSTRUCTION

An embedded-in antenna design is used.

3.6.3 ANTENNA GAIN

According to FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain=GANT + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain= $10 \log(N_{ANT}/N_{SS})$ dB;

For power measurements on IEEE 802.11 devices, Array Gain = 0 dB for $N_{ANT} \leq 4$;

The EUT supports Cyclic Delay Diversity (CDD) mode,

For power measurements, the directional GANT is set equal to the antenna having the highest gain as following formulas.

Directional Gain = Max.Gain + Array Gain.

For PSD measurements, the directional GANT is calculation is following F)2)f)ii of KDB 662911 D01 v02r01.

The directional gain is calculated as following table.

5GHz Band1/2 3/4	Ant 1 (dBi)	Ant 2 (dBi)	DG For Power (dBi)	DG For PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
	0.02	0.02	0.02	3.02	0.00	0.00

NOTE :DG= directional gain, Power Limit Reduction = DG For Power Gain -6dbi<0

PSD Limit Reduction = DG For PSD – 6dBi<0. Therefore, it is not necessary to reduce maximum peak output power and PSD limit.



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4 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).



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5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.



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6 APPENDIX:



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Test Report No.: PSU-NQN2504020112RF08

6.1. Duty Cycle

1.1 TEST RESULT

1.1.1 ANT1

Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	0.249	0.479	51.98	2.84	16.87
		5200	0.249	0.470	52.98	2.76	19.45
		5240	0.249	0.461	54.01	2.68	18.46
		5745	0.250	0.470	53.19	2.74	19.47
		5785	0.250	0.470	53.19	2.74	15.86
		5825	0.250	0.461	54.23	2.66	18.40
802.11n (HT20)	SISO	5180	0.230	0.450	51.11	2.91	12.77
		5200	0.230	0.459	50.11	3.00	12.21
		5240	0.230	0.450	51.11	2.91	19.85
		5745	0.230	0.459	50.11	3.00	18.96
		5785	0.229	0.441	51.93	2.85	15.11
		5825	0.230	0.441	52.15	2.83	18.84
802.11n (HT40)	SISO	5190	0.129	0.350	36.86	4.33	20.79
		5230	0.129	0.341	37.83	4.22	19.90
		5755	0.129	0.359	35.93	4.45	21.79
		5795	0.130	0.341	38.12	4.19	17.69
802.11n (HT20)	MIMO	5180	0.230	0.450	51.11	2.91	17.96
		5200	0.229	0.450	50.89	2.93	19.85
		5240	0.229	0.459	49.89	3.02	17.05
		5745	0.230	0.459	50.11	3.00	17.13
		5785	0.230	0.459	50.11	3.00	13.76
		5825	0.230	0.459	50.11	3.00	20.87
802.11n (HT40)	MIMO	5190	0.129	0.359	35.93	4.45	19.47
		5230	0.130	0.341	38.12	4.19	17.64
		5755	0.129	0.341	37.83	4.22	17.64
		5795	0.130	0.360	36.11	4.42	21.77
802.11ac	SISO	5180	0.201	0.437	46.00	3.37	16.89



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(VHT20)		5200	0.202	0.410	49.27	3.07	13.81
		5240	0.201	0.454	44.27	3.54	18.71
		5745	0.114	0.367	31.06	5.08	18.02
		5785	0.114	0.367	31.06	5.08	16.23
		5825	0.114	0.367	31.06	5.08	18.06
802.11ac (VHT40)	SISO	5190	0.113	0.340	33.24	4.78	15.56
		5230	0.113	0.367	30.79	5.12	18.07
		5755	0.113	0.367	30.79	5.12	18.04
		5795	0.114	0.367	31.06	5.08	18.04
802.11ac (VHT80)	SISO	5210	0.074	0.328	22.56	6.47	15.87
		5775	0.074	0.318	23.27	6.33	15.26
802.11ac (VHT20)	MIMO	5180	0.202	0.428	47.20	3.26	15.92
		5200	0.202	0.455	44.40	3.53	18.67
		5240	0.201	0.437	46.00	3.37	11.99
		5745	0.113	0.367	30.79	5.12	12.90
		5785	0.114	0.340	33.53	4.75	15.59
		5825	0.113	0.349	32.38	4.90	7.22
802.11ac (VHT40)	MIMO	5190	0.114	0.304	37.50	4.26	11.60
		5230	0.114	0.367	31.06	5.08	18.04
		5755	0.114	0.367	31.06	5.08	18.04
		5795	0.114	0.367	31.06	5.08	12.97
802.11ac (VHT80)	MIMO	5210	0.073	0.327	22.32	6.51	14.12
		5775	0.074	0.378	19.58	7.08	18.95



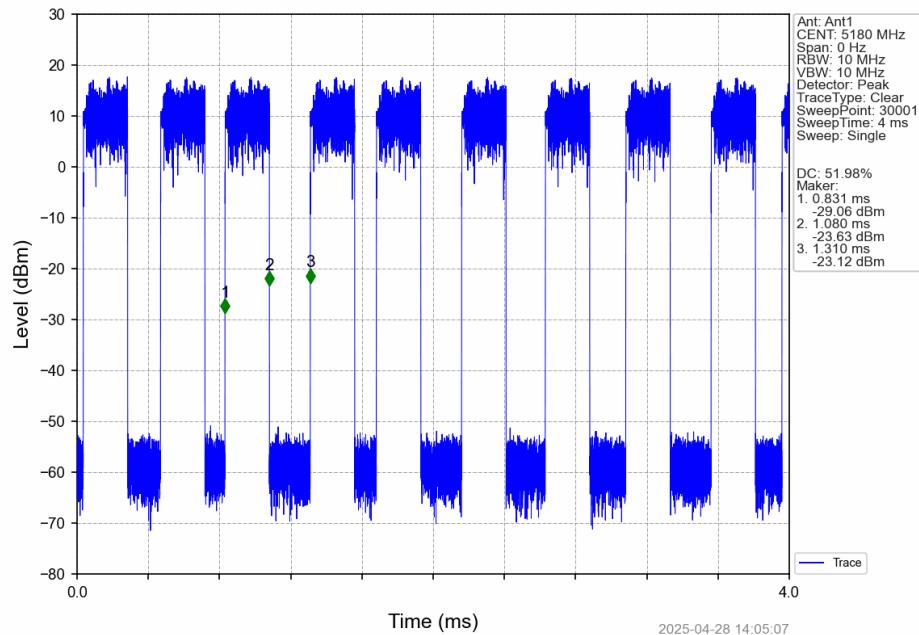
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1.2 TEST GRAPH

1.2.1 ANT1

802.11a_LCH_5180MHz_Ant1_NTNV

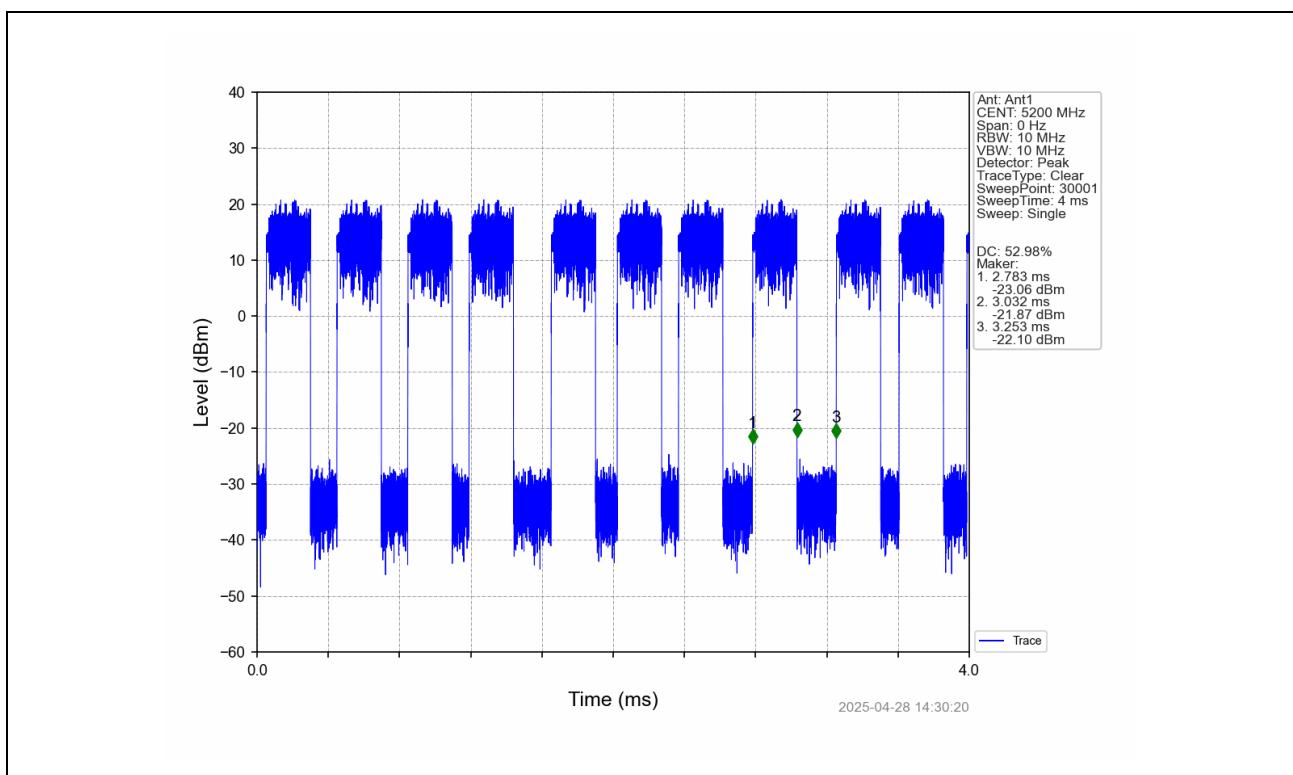


802.11a_MCH_5200MHz_Ant1_NTNV



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Test Report No.: PSU-NQN2504020112RF08

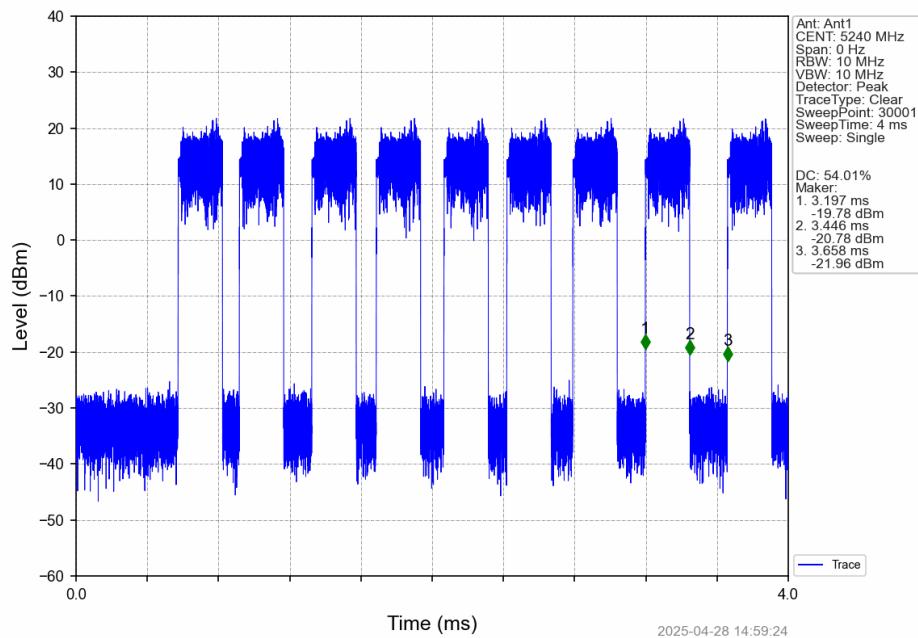




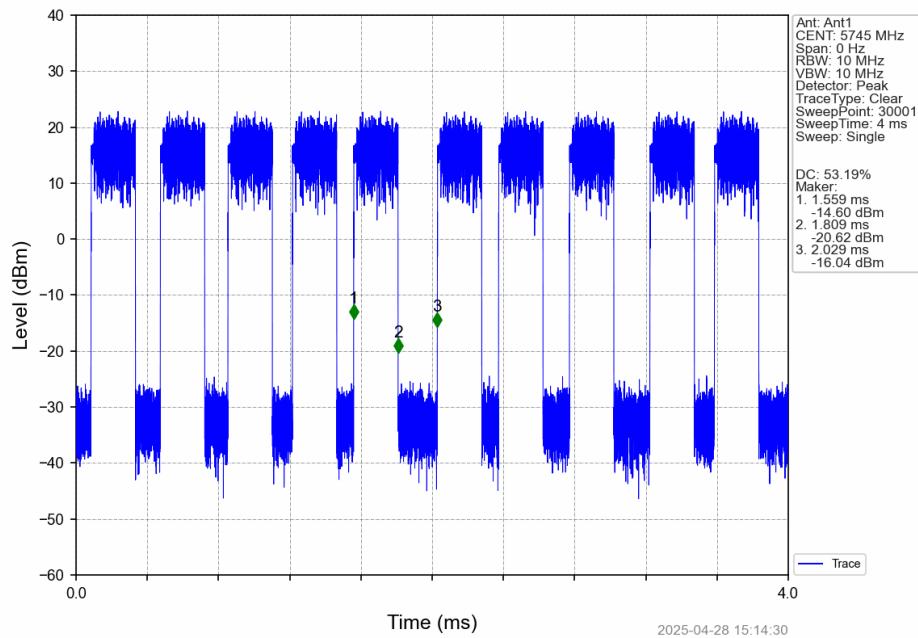
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802.11a_HCH_5240MHz_Ant1_NTNV



802.11a_LCH_5745MHz_Ant1_NTNV

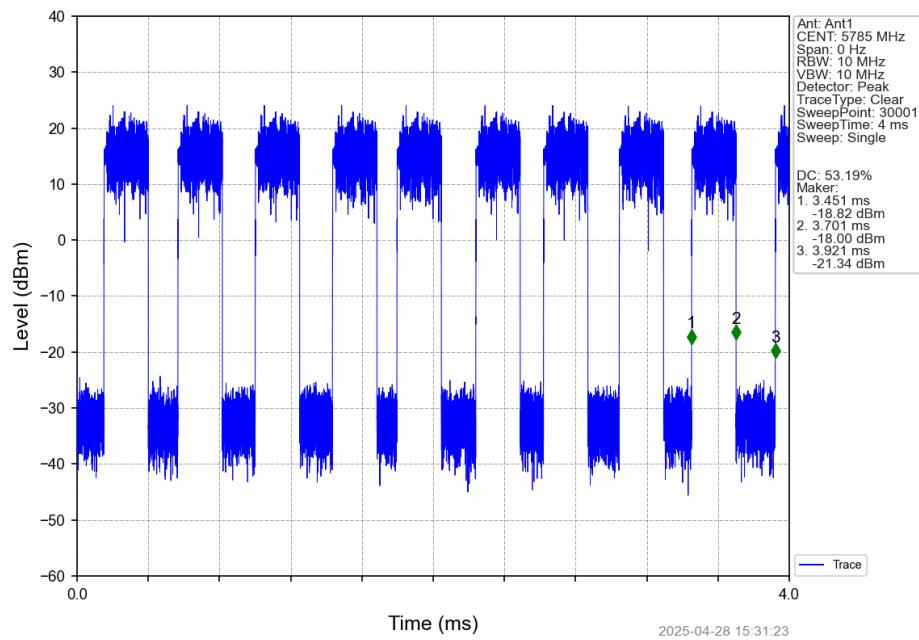




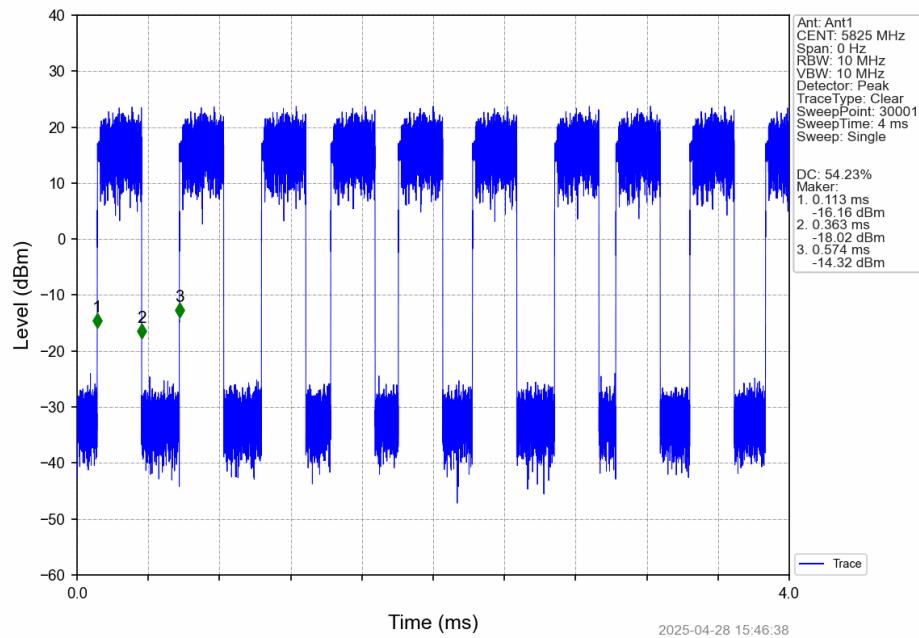
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802.11a_MCH_5785MHz_Ant1_NTNV



802.11a_HCH_5825MHz_Ant1_NTNV

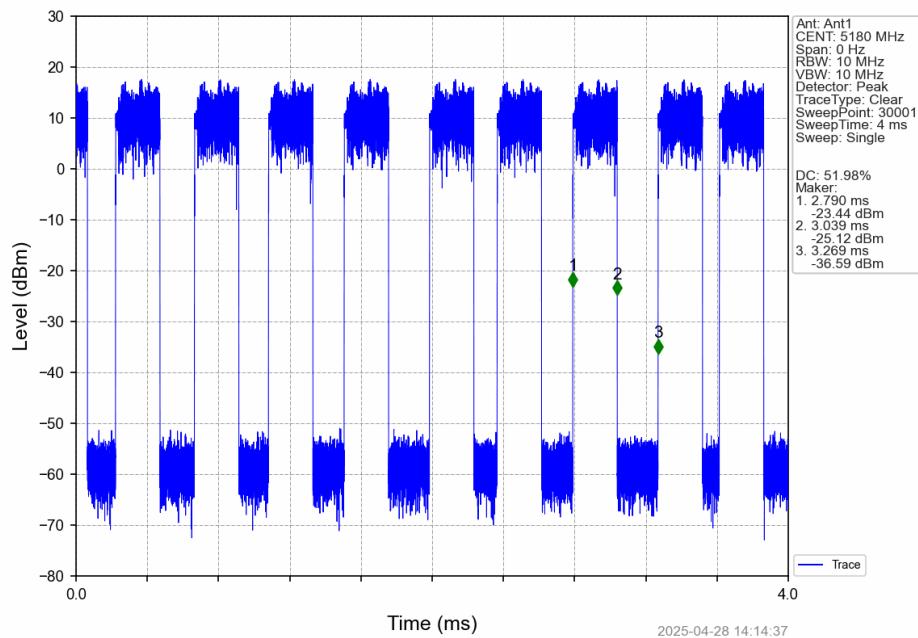




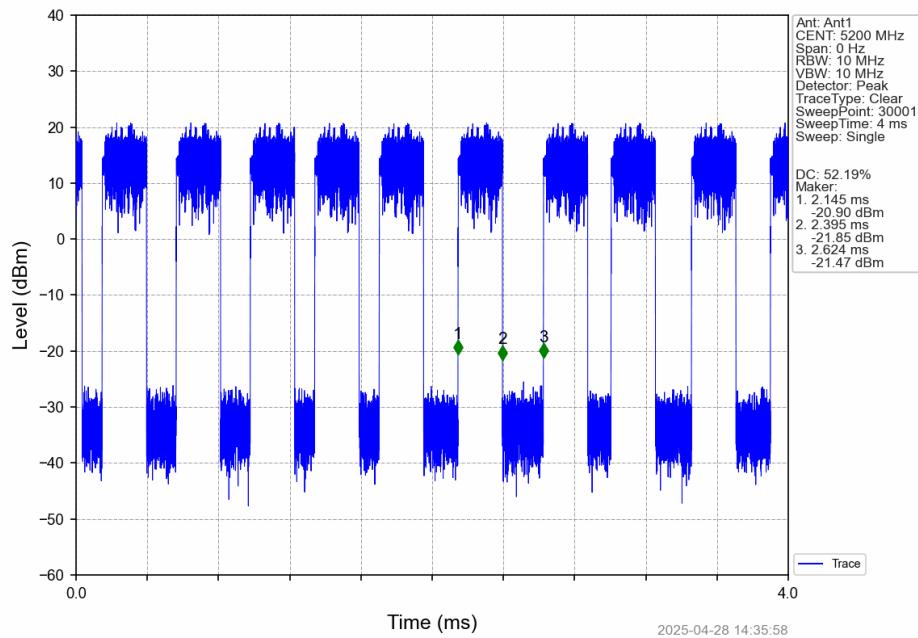
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VERITAS

Test Report No.: PSU-NQN2504020112RF08

802.11a_LCH_5180MHz_Ant1_NTNV



802.11a_MCH_5200MHz_Ant1_NTNV

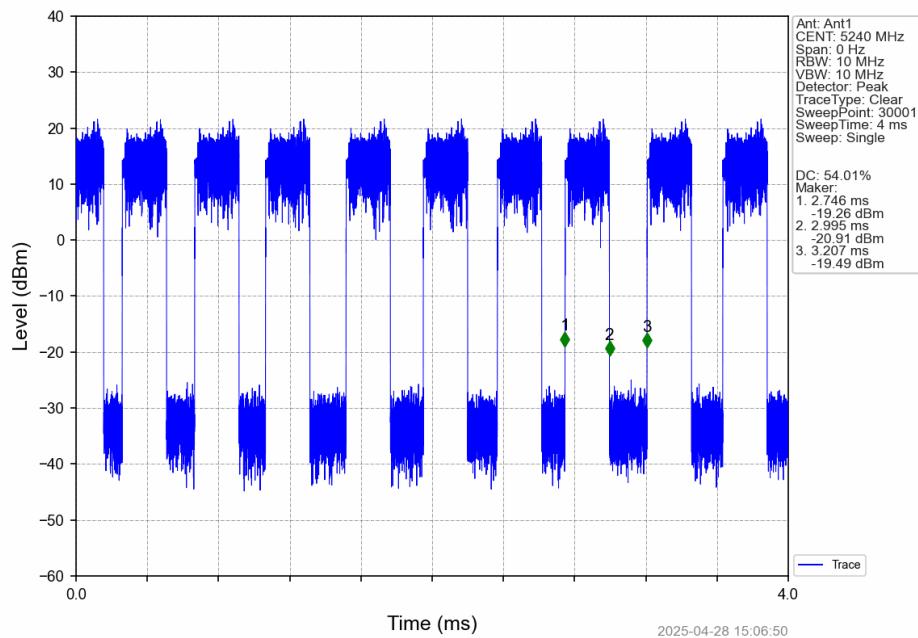




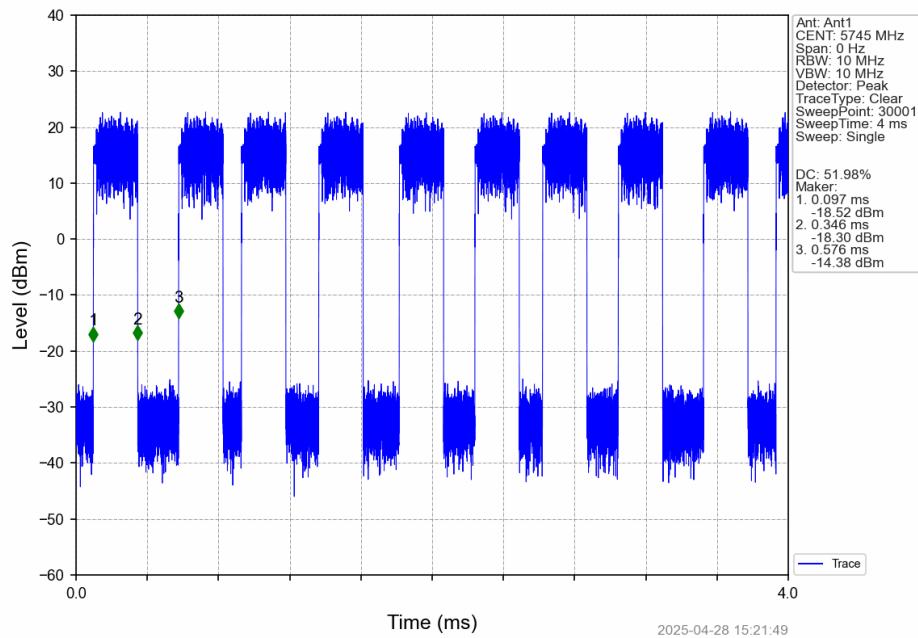
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VERITAS

Test Report No.: PSU-NQN2504020112RF08

802.11a_HCH_5240MHz_Ant1_NTNV



802.11a_LCH_5745MHz_Ant1_NTNV

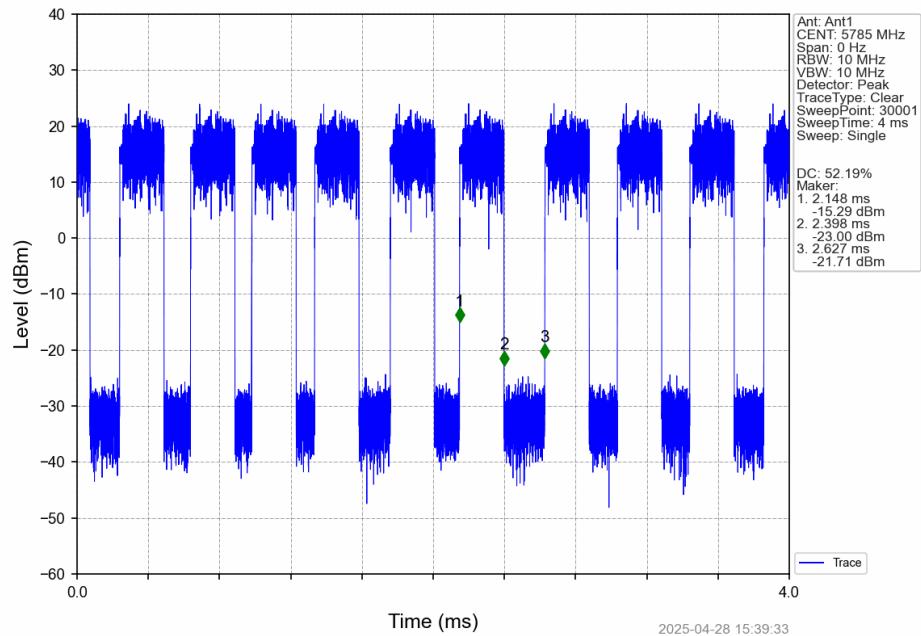




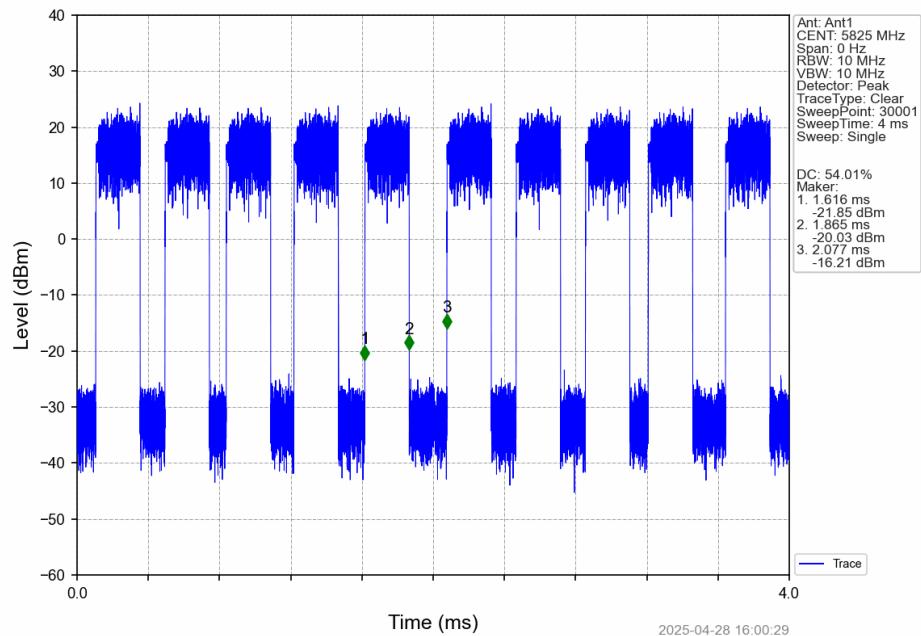
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VERITAS

Test Report No.: PSU-NQN2504020112RF08

802.11a_MCH_5785MHz_Ant1_NTNV



802.11a_HCH_5825MHz_Ant1_NTNV

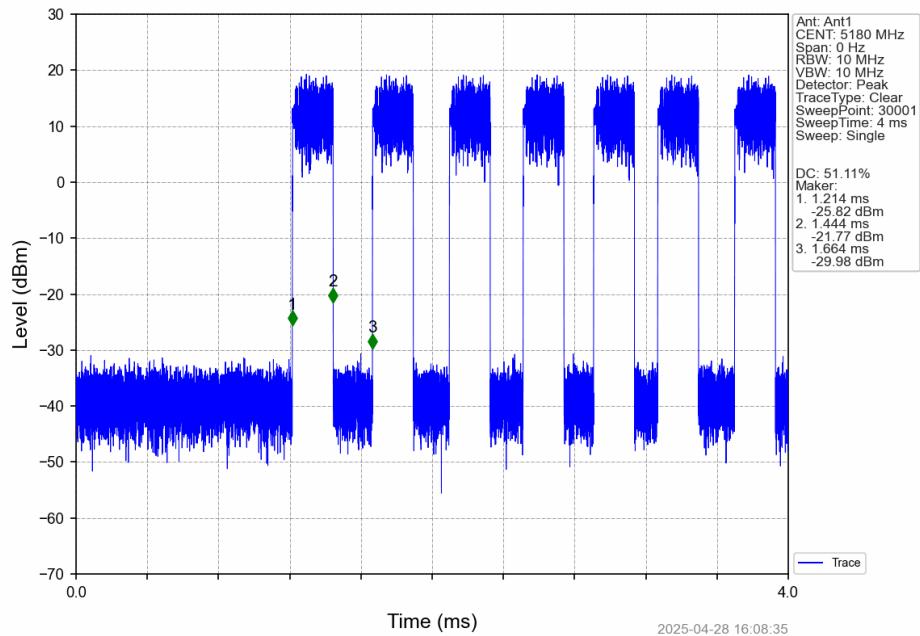




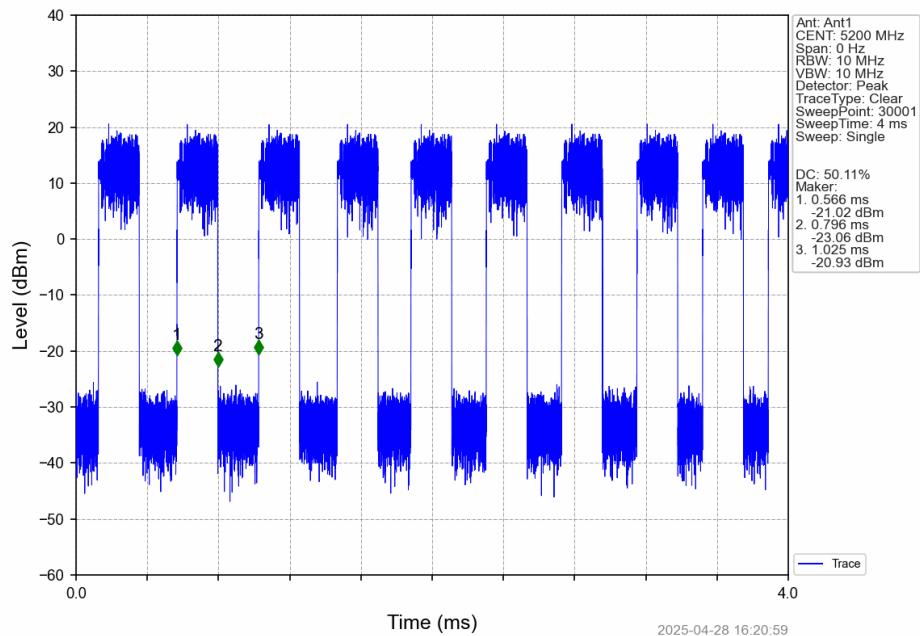
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VERITAS

Test Report No.: PSU-NQN2504020112RF08

802.11n (HT20) _LCH_5180MHz_Ant1_NTNV



802.11n (HT20) _MCH_5200MHz_Ant1_NTNV

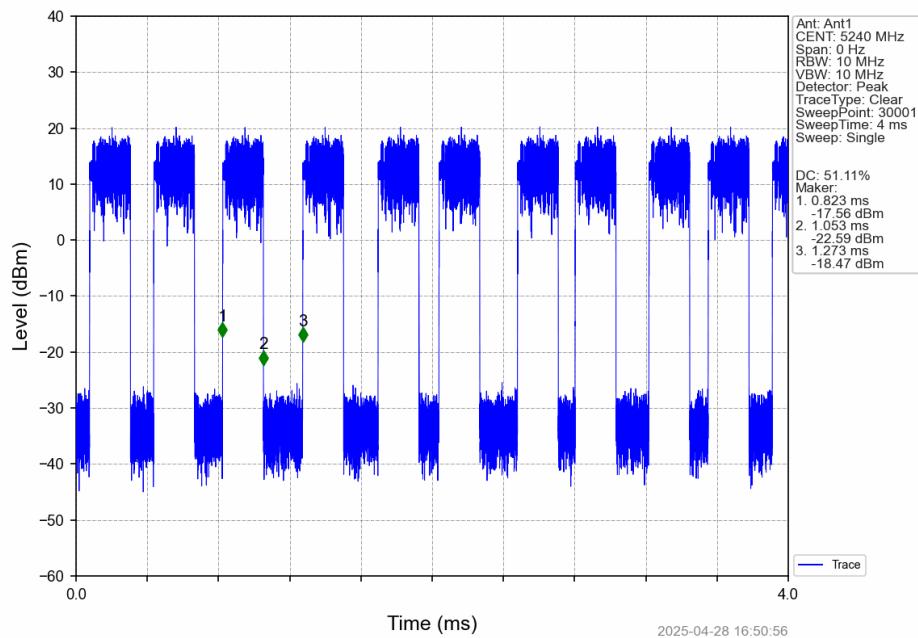




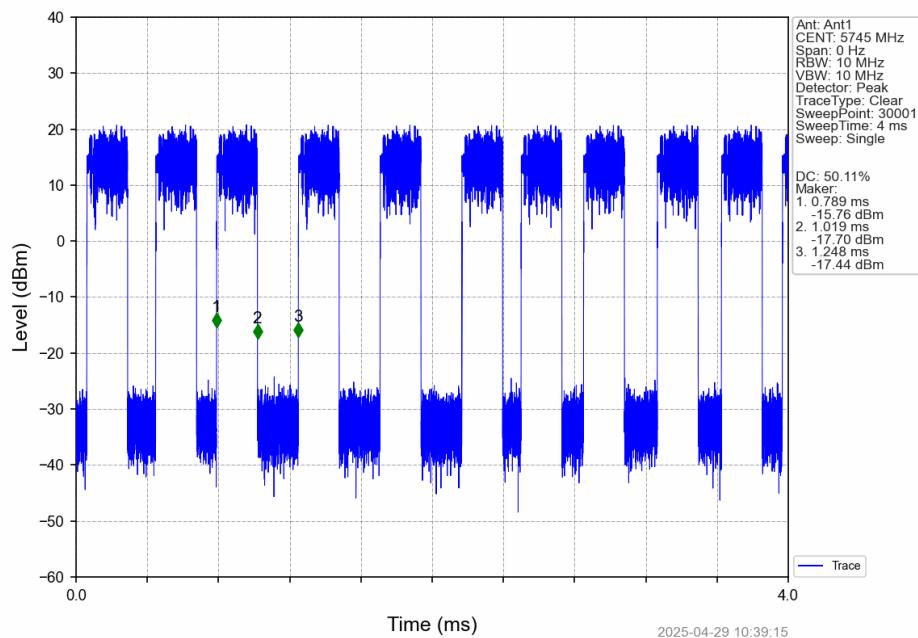
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VERITAS

Test Report No.: PSU-NQN2504020112RF08

802.11n (HT20) _HCH_5240MHz_Ant1_NTNV



802.11n (HT20) _LCH_5745MHz_Ant1_NTNV

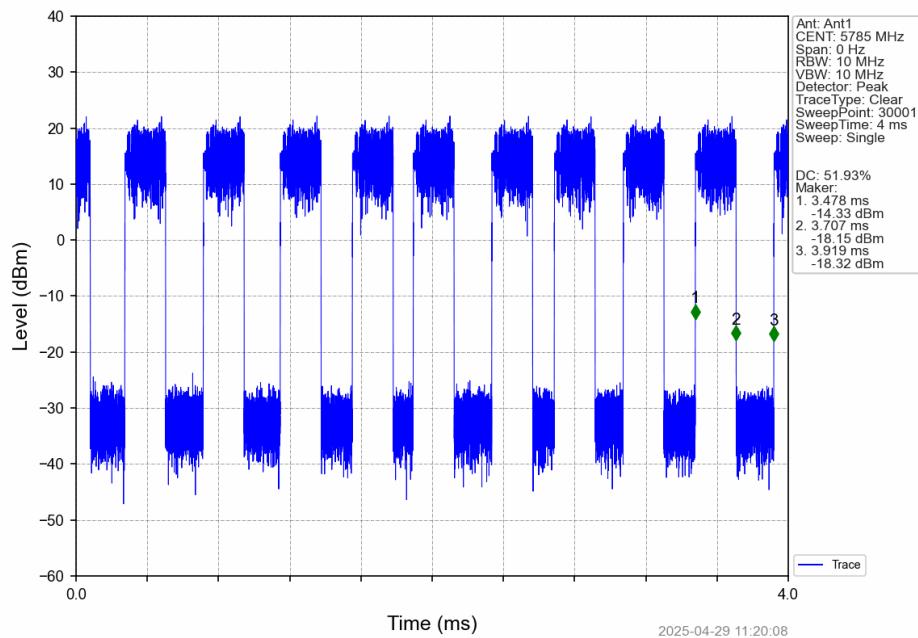




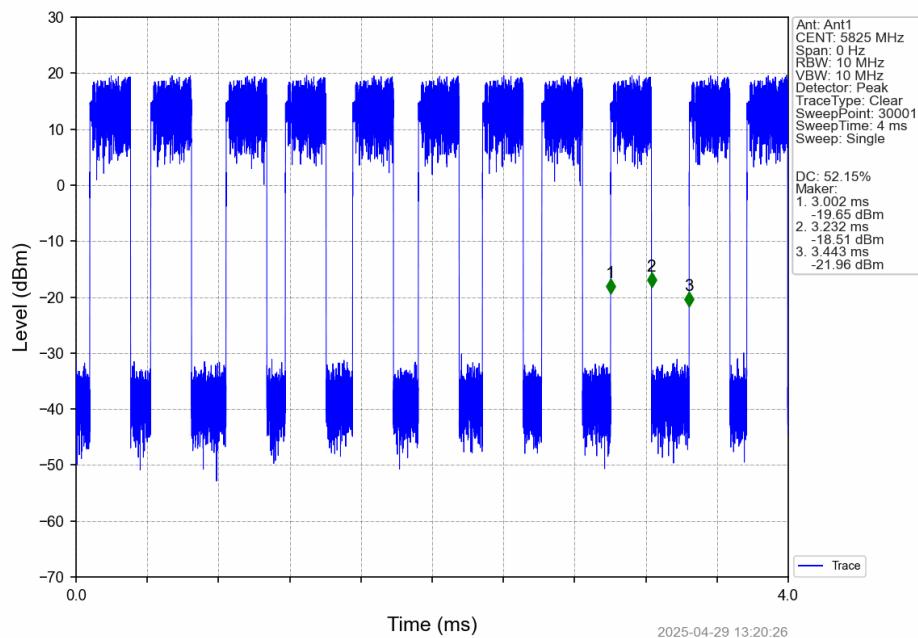
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VERITAS

Test Report No.: PSU-NQN2504020112RF08

802.11n (HT20) _MCH_5785MHz_Ant1_NTNV



802.11n (HT20) _HCH_5825MHz_Ant1_NTNV

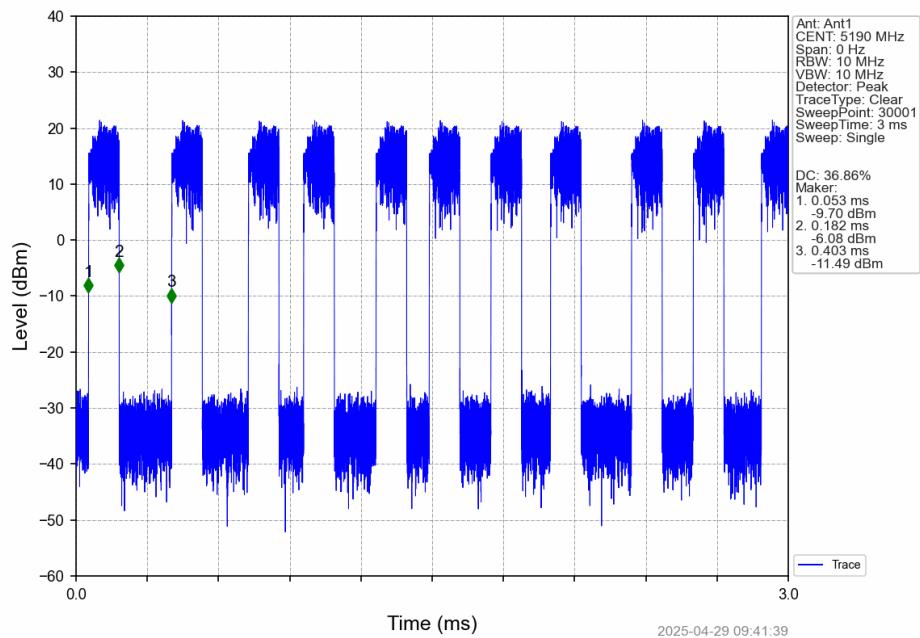




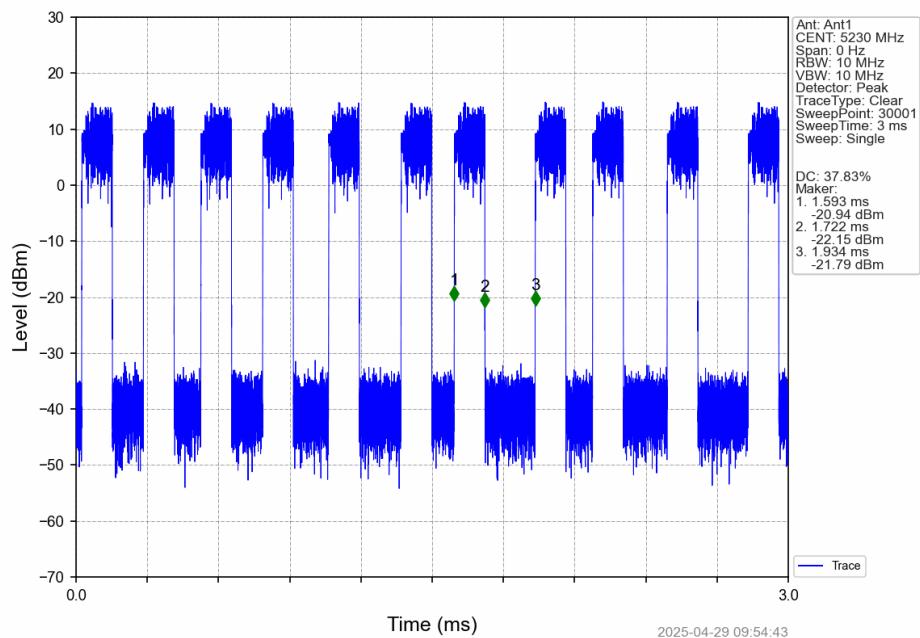
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802.11n (HT40) _LCH_5190MHz_Ant1_NTNV



802.11n (HT40) _HCH_5230MHz_Ant1_NTNV

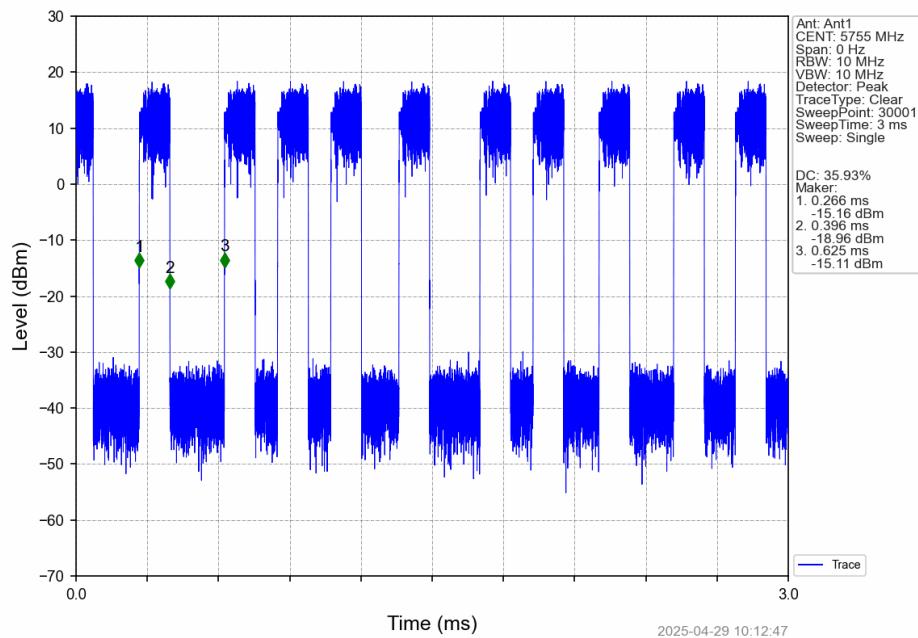




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VERITAS

Test Report No.: PSU-NQN2504020112RF08

802.11n (HT40) _LCH_5755MHz_Ant1_NTNV



802.11n (HT40) _HCH_5795MHz_Ant1_NTNV

