

FCC TEST REPORT

(Part 15, Subpart E)

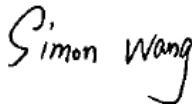
Applicant:	Shenzhen Zolon Technology Co., Ltd.
Address:	401, Building 3, Shenzhen Software Park, Maling Community, Yuehai Street, Nanshan District, Shenzhen City, Guangdong Province, P.R.C

Manufacturer or Supplier:	Shenzhen Zolon Technology Co., Ltd.
Address:	401, Building 3, Shenzhen Software Park, Maling Community, Yuehai Street, Nanshan District, Shenzhen City, Guangdong Province, P.R.C
Product:	Integrated Smart Terminal
Brand Name:	ZOLON
Model Name:	K2220, K2160
FCC ID:	2AV5BK2220
Date of tests:	Jul. 14, 2023 ~ Oct. 19, 2023

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 Simon Wang Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
 Date: Oct. 19, 2023	 Date: Oct. 19, 2023

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
W7L-P23070005RF03	Original release	Oct. 19, 2023

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	LAB
15.407(b)(9)	AC Power Conducted Emission	Compliance	A
15.407(b) (1/2/3/4/5)	Radiated Emission & Band Edge Measurement	Compliance	A
15.407(a/1/2/3)	Maximum conducted output Power	Compliance	A
15.407(a/1/2/3)	Peak Power Spectral Density	Compliance	A
15.407(a)(2)(12)	26 dB Bandwidth	Compliance	A
15.407(e)	6 dB Bandwidth	Compliance	A
15.203	Antenna Requirement	Compliance	A

NOTE: Except RSE, other data please refer to the Appendix.

Test Lab Information Reference:

Lab A

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

Lab Address:

No.B102, Dazu Chuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

Accredited Test Lab Cert 3939.01

The FCC Site Registration No. is 525120; The Designation No. is CN1171.

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	±2.70dB
Radiated emissions (9KHz~30MHz)	±2.68dB
Radiated emissions (30MHz~1GHz)	±4.98dB
Radiated emissions (1GHz ~6GHz)	±4.70dB
Radiated emissions (6GHz ~18GHz)	±4.60dB
Radiated emissions (18GHz ~40GHz)	±4.12dB
Conducted emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Conducted Output power	±2.06dB
Power Spectral Density	±0.85 dB

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



2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Integrated Smart Terminal
BRAND NAME	ZOLON
MODEL NAME	K2220, K2160
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 150.0Mbps 802.11ac: up to 433.3Mbps
OPERATING FREQUENCY	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5720MHz, 5745 ~ 5825MHz
NUMBER OF CHANNEL	5180 ~ 5240MHz: 4 for 802.11a, 802.11n, 802.11ac (20MHz) 2 for 802.11n, 802.11ac (40MHz) 1 for 802.11ac (80MHz) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n, 802.11ac (20MHz) 2 for 802.11n, 802.11ac (40MHz) 1 for 802.11ac (80MHz) 5500 ~ 5720MHz: 12 for 802.11a, 802.11n, 802.11ac(20MHz) 6 for 802.11n, 802.11ac (40MHz) 3 for 802.11ac (80MHz) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n, 802.11ac (20MHz) 3 for 802.11n, 802.11ac (40MHz) 1 for 802.11ac (80MHz)
AVERAGE POWER	61.52 mW for 5180 ~ 5240MHz 80.91 mW for 5260 ~ 5320MHz 71.29 mW for 5500 ~ 5720MHz 23.88 mW for 5745 ~ 5825MHz
ANTENNA TYPE	Small Folding Antenna
ANTENNA GAIN	1.45dBi for 5180 ~ 5240MHz 2.24dBi for 5260 ~ 5320MHz 1.88dBi for 5500 ~ 5720MHz -0.57dBi for 5745 ~ 5825MHz
HW VERSION	K2220 K2160
SW VERSION	V0.0.0.1
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	AC cable: non-shielded cable, with w/o ferrite core, 1.8 meter

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
802.11a	1TX/1RX
802.11n/802.11ac (20MHz)	1TX/1RX
802.11n/802.11ac (40MHz)	1TX/1RX
802.11ac (80MHz)	1TX/1RX

3. For the test results, the EUT had been tested with all conditions. But only the worst case (K2220) was shown in the test report. (The test mainly executed by K2220, and K2160 verified the AC Power Conducted Emission and RSE test case, only the data of K2220 has been reported in the report.)
4. The difference of K2220 and K2160 is on below:

Object	K2160	K2220
PMN	K2160	K2220
HVIM	K2160	K2220
Power Rating	Model Name: SLX-PWL27-P4 I/P: 100-240Vac, 2000mA, O/P: 12Vdc, 2.0 A; LCD backlight power supply: 28.8 Vdc, 150 mA	Model Name: SLX-PWL27-V13 I/P: 100-240Vac, 2000mA, O/P: 12Vdc, 2.0 A; LCD backlight power supply: 54 Vdc, 240 mA
Screen	Manufacturer: CSOT Model Name: MG1561B01-6 Size: 15.6 inches	Manufacturer: HKC Model Name: PN215CT01-1 Size: 21.5 inches
When the operating voltage changes, It does not affect RF, baseband module.		

List of Accessory:

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
AC cable US Plug	N/A	N/A	KE301	1.8 METER
Small folding antenna	N/A	Shenzhen Zhenwei technology co.,LTD	HTX-002	N/A

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 5260 ~ 5320MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
54	5270 MHz	62	5310 MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
58	5290 MHz		

**FOR 5500 ~ 5720MHz**

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
100	5500 MHz	124	5620MHz
104	5520 MHz	128	5640MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz
116	5580 MHz	140	5700 MHz
120	5600 MHz	144	5720 MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
102	5510 MHz	126	5630MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz	142	5710 MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
106	5530 MHz	122	5610 MHz
138	5690 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



2.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE $\geq$ 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 $\geq$ 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	802.11ac (40MHz)	5180-5240	38 to 46	38	OFDM	MCS9



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	54.0
A	802.11an/ac (20MHz)		36 to 48	36, 40, 48	OFDM	MCS8
A	802.11an/ac (40MHz)		38 to 46	38, 46	OFDM	MCS9
A	802.11ac (80MHz)		42	42	OFDM	MCS9
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	54.0
A	802.11an/ac (20MHz)		52 to 64	52, 60, 64	OFDM	MCS8
A	802.11an/ac (40MHz)		54 to 62	54, 62	OFDM	MCS9
A	802.11ac (80MHz)		58	58	OFDM	MCS9
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	54.0
A	802.11an/ac (20MHz)		100 to 144	100, 116, 140, 144	OFDM	MCS8
A	802.11an/ac (40MHz)		102 to 142	102, 110, 134, 142	OFDM	MCS9
A	802.11ac (80MHz)		106 to 138	106, 122, 138	OFDM	MCS9
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	54.0
A	802.11an/ac (20MHz)		149 to 165	149, 157, 165	OFDM	MCS8
A	802.11an/ac (40MHz)		151 to 159	151, 159	OFDM	MCS9
A	802.11ac (80MHz)		155	155	OFDM	MCS9

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).
- ☒ 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	802.11ac (40MHz)	5180-5240	38 to 46	38	OFDM	MCS9

BANDEGE 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).
- ☒ 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	54.0
A	802.11an/ac (20MHz)		36 to 48	36, 40, 48	OFDM	MCS8
A	802.11an/ac (40MHz)		38 to 46	38, 46	OFDM	MCS9
A	802.11ac (80MHz)		42	42	OFDM	MCS9
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	54.0
A	802.11an/ac (20MHz)		52 to 64	52, 60, 64	OFDM	MCS8
A	802.11an/ac (40MHz)		54 to 62	54, 62	OFDM	MCS9
A	802.11ac (80MHz)		58	58	OFDM	MCS9
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	54.0
A	802.11an/ac (20MHz)		100 to 144	100, 116, 140, 144	OFDM	MCS8
A	802.11an/ac/ (40MHz)		102 to 142	102, 110, 134, 142	OFDM	MCS9
A	802.11ac (80MHz)		106 to 138	106, 122, 138	OFDM	MCS9
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	54.0
A	802.11an/ac (20MHz)		149 to 165	149, 157, 165	OFDM	MCS8
A	802.11an/ac (40MHz)		151 to 159	151, 159	OFDM	MCS9
A	802.11ac (80MHz)		155	155	OFDM	MCS9

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).
- ☒ 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)
B	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	54.0
B	802.11an/ac (20MHz)		36 to 48	36, 40, 48	OFDM	MCS8
B	802.11an/ac (40MHz)		38 to 46	38, 46	OFDM	MCS9
B	802.11ac (80MHz)		42	42	OFDM	MCS9
B	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	54.0
B	802.11an/ac (20MHz)		52 to 64	52, 60, 64	OFDM	MCS8
B	802.11an/ac (40MHz)		54 to 62	54, 62	OFDM	MCS9
B	802.11ac (80MHz)		58	58	OFDM	MCS9
B	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	54.0
B	802.11an/ac (20MHz)		100 to 144	100, 116, 140, 144	OFDM	MCS8
B	802.11an/ac (40MHz)		102 to 142	102, 110, 134, 142	OFDM	MCS9
B	802.11ac (80MHz)		106 to 138	106, 122, 138	OFDM	MCS9
B	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	54.0
B	802.11an/ac (20MHz)		149 to 165	149, 157, 165	OFDM	MCS8
B	802.11an/ac (40MHz)		151 to 159	151, 159	OFDM	MCS9
B	802.11ac (80MHz)		155	155	OFDM	MCS9

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE<1G	23deg. C, 70%RH	AC 120V	Jace Hu
RE≥1G	23deg. C, 70%RH	AC 120V	Jace Hu
PLC	25deg. C, 52%RH	AC 120V	James Fu
APCM	25deg. C, 60%RH	AC 120V	James Fu

2.3 DUTY CYCLE OF TEST SIGNAL

Please Refer to Appendix Of this test report.

WORST-CASE DATA:

Measured Duty Cycle		
Mode		Duty Cycle [%]
		ANT1
5GHZ	11a	66.67
	11n20	62.96
	11n40	71.43
	11ac20	78.95
	11ac40	75.00
	11ac80	63.64

Note:

Duty cycle of test signal is < 98%, duty factor shall be considered.

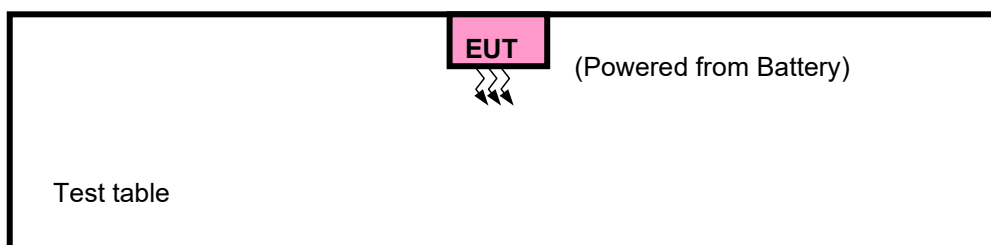
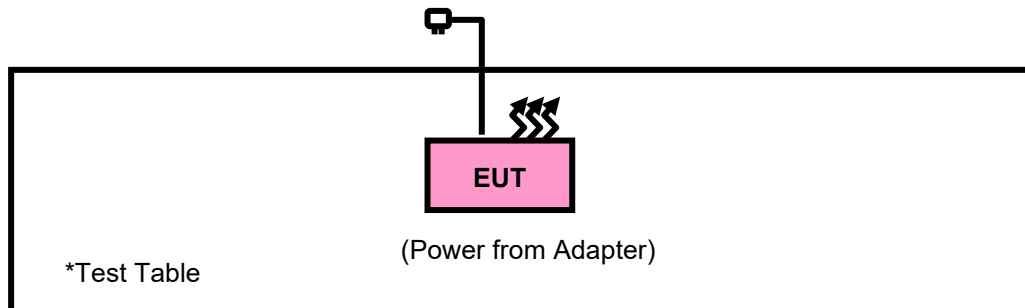
2.4 DESCRIPTION OF SUPPORT UNITS

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	Desktop	Lenovo	M73 SFF	PC04GRQV	N/A
2	Desktop	Lenovo	M73 SFF	PC06CS27	N/A
3	Laptop	Lenovo	ThinkpadL440	R90FTFKN	N/A
4	DC source	Kikusui/JP	PMX18-5A	0000001	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

2.4.1 CONFIGURATION OF SYSTEM UNDER TEST



2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is an 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 C63.10-2013

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.

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 (dBuV/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	
	789033 D02 General UNII Test Procedures New Rules v02r01	FIELD STRENGTH AT 3m (dBµV/m)	
		PK : 74	AV : 54
OUT OF THE RESTRICTED BANDS	APPLICABLE TO	EIRP LIMIT (dBm/MHz)	EQUIVALENT FIELD STRENGTH AT 3m (dBµV/m)
	15.407(b)(1)	PK : -27	PK : 68.2
	15.407(b)(2)		
	15.407(b)(3)		
	15.407(b)(4)	See note 2 (FCC 16-24)	

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

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

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.
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	May. 22, 23	May. 21,26
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Feb. 18,23	Feb. 17,24
Horn Antenna	ETS-LINDGREN	3117	00168692	Feb. 18,23	Feb. 17,24
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Sep.04, 22	Sep.03, 23
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Sep.03, 23	Sep.02, 24
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	JS1120-3	3.2.06	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	N/A	May. 06,23	May. 05,24
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Mar. 28,23	Mar. 27,24
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May. 06,23	May. 05,24
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.10,23	May.09,24
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 17,23	Feb. 16,24
DC Source	Kikusui/JP	PMX18-5A	0000001	Aug. 12,22	Aug. 11,23
DC Source	Kikusui/JP	PMX18-5A	0000001	Aug. 11,23	Aug. 10,24
Power Meter	Anritsu	ML2495A	1506002	Feb. 14,23	Feb. 13,24
Power Sensor	Anritsu	MA2411B	1339352	Feb. 14,23	Feb. 13,24
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.03,22	Sep.02,23
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.02,23	Sep.01,24

- NOTE:**
1. The calibration interval of the above test instruments is 12 months or 36 months, and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
 2. The test was performed in the 3m Chamber.
 3. The FCC Site Registration No. is 525120; The Designation No. is CN1171.

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 varies 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:

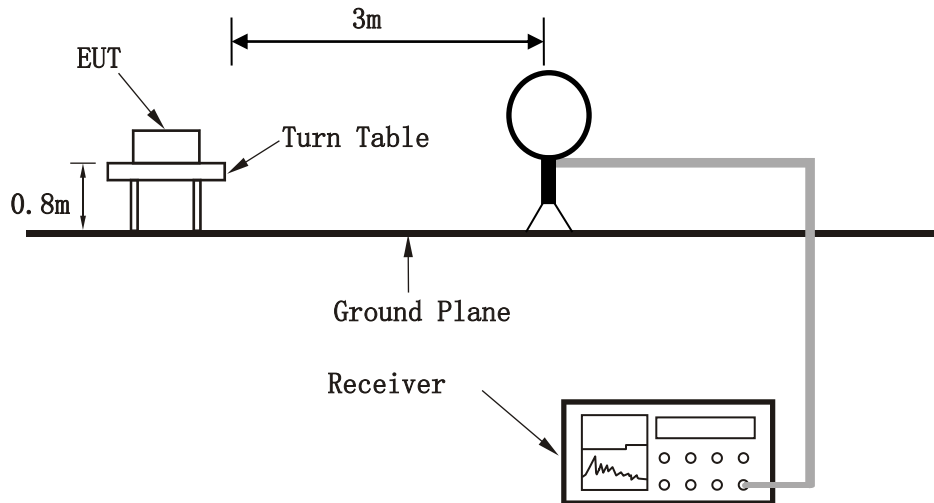
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency 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

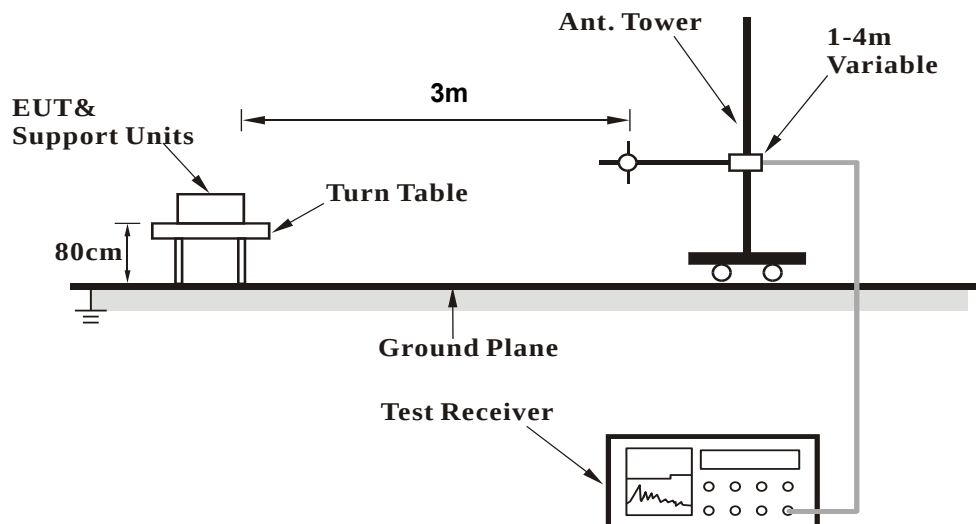
No deviation.

3.1.6 TEST SETUP

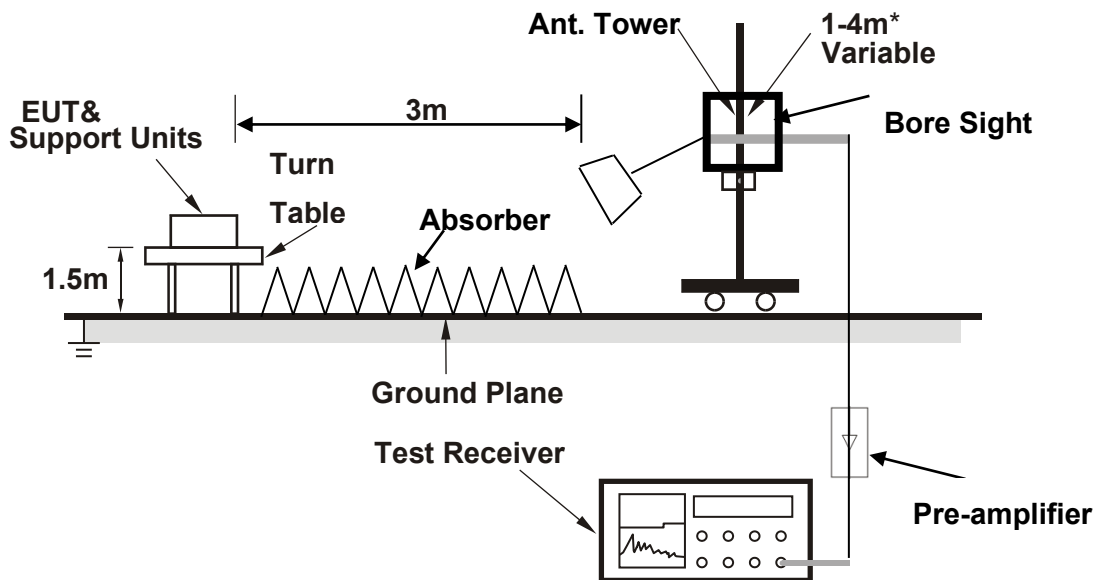
<Frequency Range 9KHz~30MHz >



< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna

Depending 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 place it 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.



3.1.8 TEST RESULTS

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

30 MHz – 1GHz data:

Band 1

802.11ac (40MHz):

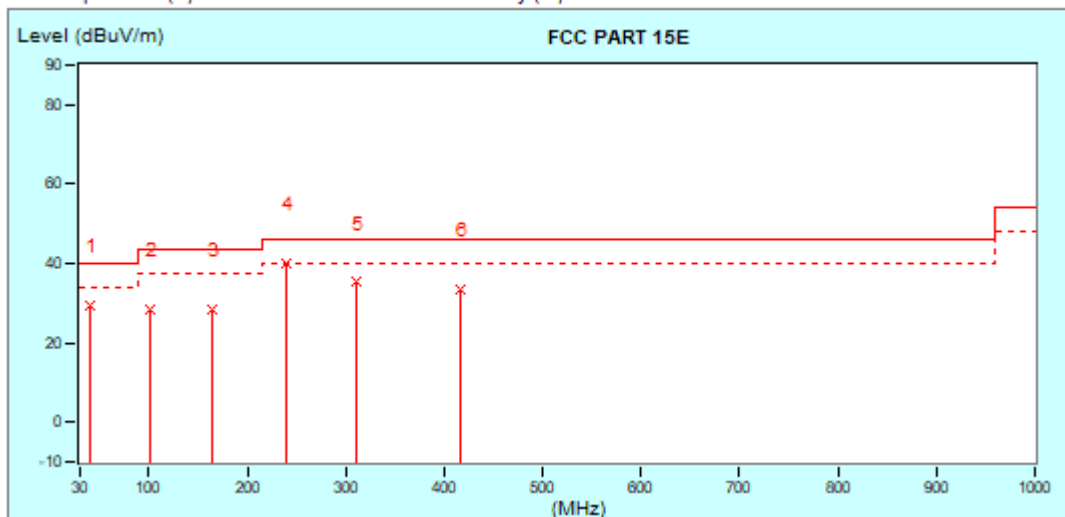
CHANNEL	TX Channel 38	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY: HORIZONTAL

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	40.88	-7.45	36.89	29.44	40.00	-10.56	100	0
2	101.51	-9.78	38.03	28.25	43.50	-15.25	100	0
3	163.69	-8.19	36.40	28.21	43.50	-15.29	100	0
* 4	239.86	-8.04	48.26	40.22	46.00	-5.78	100	0
5	309.81	-6.20	41.44	35.24	46.00	-10.76	100	0
6	417.07	-3.67	37.16	33.49	46.00	-12.51	100	0

REMARKS:

1. Emission level (dBuV/m) = Read level (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.





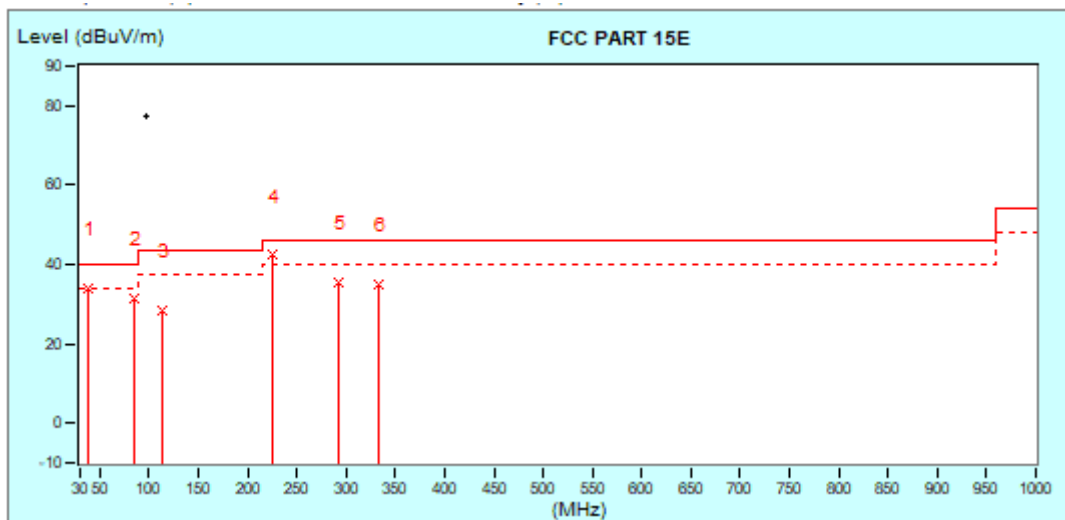
CHANNEL	Channel 38	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY: VERTICAL

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	37.77	* -5.19	39.22	34.03	40.00	-5.97	100	0
2	84.41	-12.71	44.25	31.54	40.00	-8.46	100	0
3	112.39	-7.42	35.82	28.40	43.50	-15.10	100	0
* 4	225.87	-7.72	50.03	42.31	46.00	-3.69	100	0
5	292.71	-6.66	41.97	35.31	46.00	-10.69	100	0
6	333.12	-5.72	40.83	35.11	46.00	-10.89	100	0

REMARKS:

1. Emission level (dBuV/m) = Read level (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.





ABOVE 1GHz WORST-CASE DATA:

Note: For higher frequency, the emission is too low to be detected.

Band 1

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	71.41	67.39	74.00	-6.61	128	72
2	5150.00 (AV)	-4.02	54.85	50.83	54.00	-3.17	128	72
i 3	5180.00 (PK)	-3.95	110.84	106.89	74.00	32.89	128	72
*i 4	5180.00 (AV)	-3.95	102.32	98.37	54.00	44.37	128	72
5	5350.00 (PK)	-3.59	62.36	58.77	74.00	-15.23	128	72
6	5350.00 (AV)	-3.59	53.24	49.65	54.00	-4.35	128	72

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	66.54	62.52	74.00	-11.48	100	95
2	5150.00 (AV)	-4.02	53.17	49.15	54.00	-4.85	100	95
i 3	5180.00 (PK)	-3.95	107.45	103.50	74.00	29.50	100	95
*i 4	5180.00 (AV)	-3.95	99.48	95.53	54.00	41.53	100	95
5	5350.00 (PK)	-3.59	61.52	57.93	74.00	-16.07	100	95
6	5350.00 (AV)	-3.59	50.84	47.25	54.00	-6.75	100	95

REMARKS:

- 1.Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5180MHz: Fundamental frequency.



**BUREAU
VERITAS**

Test Report No.: W7L-P23070005RF03

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	62.19	58.17	74.00	-15.83	128	72
2	5150.00 (AV)	-4.02	53.67	49.65	54.00	-4.35	128	72
i 3	5200.00 (PK)	-3.91	108.54	104.63	74.00	30.63	128	72
*i 4	5200.00 (AV)	-3.91	100.54	96.63	54.00	42.63	128	72
5	5350.00 (PK)	-3.59	61.57	57.98	74.00	-16.02	128	72
6	5350.00 (AV)	-3.59	52.17	48.58	54.00	-5.42	128	72

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	61.84	57.82	74.00	-16.18	100	95
2	5150.00 (AV)	-4.02	53.64	49.62	54.00	-4.38	100	95
i 3	5200.00 (PK)	-3.91	106.75	102.84	74.00	28.84	100	95
*i 4	5200.00 (AV)	-3.91	98.67	94.76	54.00	40.76	100	95
5	5350.00 (PK)	-3.59	62.13	58.54	74.00	-15.46	100	95
6	5350.00 (AV)	-3.59	52.96	49.37	54.00	-4.63	100	95

REMARKS:

- 1.Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5200MHz: Fundamental frequency.



**BUREAU
VERITAS**

Test Report No.: W7L-P23070005RF03

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	61.03	57.01	74.00	-16.99	128	72
2	5150.00 (AV)	-4.02	53.07	49.05	54.00	-4.95	128	72
i 3	5240.00 (PK)	-3.83	107.26	103.43	74.00	29.43	128	72
*i 4	5240.00 (AV)	-3.83	99.46	95.63	54.00	41.63	128	72
5	5350.00 (PK)	-3.59	62.55	58.96	74.00	-15.04	128	72
6	5350.00 (AV)	-3.59	53.90	50.31	54.00	-3.69	128	72

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	60.90	56.88	74.00	-17.12	100	95
2	5150.00 (AV)	-4.02	53.06	49.04	54.00	-4.96	100	95
i 3	5240.00 (PK)	-3.83	105.23	101.40	74.00	27.40	100	95
*i 4	5240.00 (AV)	-3.83	97.52	93.69	54.00	39.69	100	95
5	5350.00 (PK)	-3.59	61.61	58.02	74.00	-15.98	100	95
6	5350.00 (AV)	-3.59	52.86	49.27	54.00	-4.73	100	95

REMARKS:

- 1.Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5240MHz: Fundamental frequency.



802.11n (20MHz)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	63.53	59.51	74.00	-14.49	125	70
2	5150.00 (AV)	-4.02	53.54	49.52	54.00	-4.48	125	70
i 3	5180.00 (PK)	-3.95	106.41	102.46	74.00	28.46	125	70
*i 4	5180.00 (AV)	-3.95	97.18	93.23	54.00	39.23	125	70
5	5350.00 (PK)	-3.59	60.07	56.48	74.00	-17.52	125	70
6	5350.00 (AV)	-3.59	50.15	46.56	54.00	-7.44	125	70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	61.92	57.90	74.00	-16.10	130	285
2	5150.00 (AV)	-4.02	52.33	48.31	54.00	-5.69	130	285
i 3	5180.00 (PK)	-3.95	106.57	102.62	74.00	28.62	130	285
*i 4	5180.00 (AV)	-3.95	96.89	92.94	54.00	38.94	130	285
5	5350.00 (PK)	-3.59	60.98	57.39	74.00	-16.61	130	285
6	5350.00 (AV)	-3.59	50.14	46.55	54.00	-7.45	130	285

REMARKS:

- 1.Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5180MHz: Fundamental frequency.



**BUREAU
VERITAS**

Test Report No.: W7L-P23070005RF03

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	60.41	56.39	74.00	-17.61	125	70
2	5150.00 (AV)	-4.02	50.64	46.62	54.00	-7.38	125	70
i 3	5200.00 (PK)	-3.91	106.24	102.33	74.00	28.33	125	70
*i 4	5200.00 (AV)	-3.91	96.71	92.80	54.00	38.80	125	70
5	5350.00 (PK)	-3.59	60.48	56.89	74.00	-17.11	125	70
6	5350.00 (AV)	-3.59	50.50	46.91	54.00	-7.09	125	70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.83	55.81	74.00	-18.19	110	285
2	5150.00 (AV)	-4.02	50.54	46.52	54.00	-7.48	110	285
i 3	5200.00 (PK)	-3.91	105.77	101.86	74.00	27.86	110	285
*i 4	5200.00 (AV)	-3.91	96.01	92.10	54.00	38.10	110	285
5	5350.00 (PK)	-3.59	59.97	56.38	74.00	-17.62	110	285
6	5350.00 (AV)	-3.59	50.20	46.61	54.00	-7.39	110	285

REMARKS:

- 1.Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5200MHz: Fundamental frequency.



**BUREAU
VERITAS**

Test Report No.: W7L-P23070005RF03

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	60.39	56.37	74.00	-17.63	135	275
2	5150.00 (AV)	-4.02	49.92	45.90	54.00	-8.10	135	275
i 3	5240.00 (PK)	-3.83	106.71	102.88	74.00	28.88	135	275
*i 4	5240.00 (AV)	-3.83	96.52	92.69	54.00	38.69	135	275
5	5350.00 (PK)	-3.59	61.41	57.82	74.00	-16.18	135	275
6	5350.00 (AV)	-3.59	50.45	46.86	54.00	-7.14	135	275

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	61.53	57.51	74.00	-16.49	110	285
2	5150.00 (AV)	-4.02	50.64	46.62	54.00	-7.38	110	285
i 3	5240.00 (PK)	-3.83	105.61	101.78	74.00	27.78	110	285
*i 4	5240.00 (AV)	-3.83	96.24	92.41	54.00	38.41	110	285
5	5350.00 (PK)	-3.59	60.43	56.84	74.00	-17.16	110	285
6	5350.00 (AV)	-3.59	50.43	46.84	54.00	-7.16	110	285

REMARKS:

- 1.Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5240MHz: Fundamental frequency.



802.11n (40MHz)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	70.21	66.19	74.00	-7.81	125	70
2	5150.00 (AV)	-4.02	54.85	50.83	54.00	-3.17	125	70
i 3	5190.00 (PK)	-3.93	103.29	99.36	74.00	25.36	125	70
*i 4	5190.00 (AV)	-3.93	94.26	90.33	54.00	36.33	125	70
5	5350.00 (PK)	-3.59	61.25	57.66	74.00	-16.34	125	70
6	5350.00 (AV)	-3.59	50.46	46.87	54.00	-7.13	125	70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	67.45	63.43	74.00	-10.57	100	255
2	5150.00 (AV)	-4.02	53.98	49.96	54.00	-4.04	100	255
i 3	5190.00 (PK)	-3.93	102.84	98.91	74.00	24.91	100	255
*i 4	5190.00 (AV)	-3.93	93.11	89.18	54.00	35.18	100	255
5	5350.00 (PK)	-3.59	60.83	57.24	74.00	-16.76	100	255
6	5350.00 (AV)	-3.59	49.97	46.38	54.00	-7.62	100	255

REMARKS:

- 1.Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5190MHz: Fundamental frequency.

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	61.25	57.23	74.00	-16.77	125	70
2	5150.00 (AV)	-4.02	51.26	47.24	54.00	-6.76	125	70
i 3	5230.00 (PK)	-3.85	103.46	99.61	74.00	25.61	125	70
*i 4	5230.00 (AV)	-3.85	94.53	90.68	54.00	36.68	125	70
5	5350.00 (PK)	-3.59	61.52	57.93	74.00	-16.07	125	70
6	5350.00 (AV)	-3.59	50.67	47.08	54.00	-6.92	125	70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.67	55.65	74.00	-18.35	100	255
2	5150.00 (AV)	-4.02	50.94	46.92	54.00	-7.08	100	255
i 3	5230.00 (PK)	-3.85	101.58	97.73	74.00	23.73	100	255
*i 4	5230.00 (AV)	-3.85	92.46	88.61	54.00	34.61	100	255
5	5350.00 (PK)	-3.59	60.59	57.00	74.00	-17.00	100	255
6	5350.00 (AV)	-3.59	50.20	46.61	54.00	-7.39	100	255

REMARKS:

- 1.Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5230MHz: Fundamental frequency.



802.11ac (20MHz)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	65.97	61.95	74.00	-12.05	125	70
2	5150.00 (AV)	-4.02	54.15	50.13	54.00	-3.87	125	70
i 3	5180.00 (PK)	-3.95	106.78	102.83	74.00	28.83	125	70
*i 4	5180.00 (AV)	-3.95	97.19	93.24	54.00	39.24	125	70
5	5350.00 (PK)	-3.59	61.11	57.52	74.00	-16.48	125	70
6	5350.00 (AV)	-3.59	50.34	46.75	54.00	-7.25	125	70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	63.07	59.05	74.00	-14.95	100	255
2	5150.00 (AV)	-4.02	52.90	48.88	54.00	-5.12	100	255
i 3	5180.00 (PK)	-3.95	105.39	101.44	74.00	27.44	100	255
*i 4	5180.00 (AV)	-3.95	96.35	92.40	54.00	38.40	100	255
5	5350.00 (PK)	-3.59	59.64	56.05	74.00	-17.95	100	255
6	5350.00 (AV)	-3.59	50.37	46.78	54.00	-7.22	100	255

REMARKS:

- 1.Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5180MHz: Fundamental frequency.



**BUREAU
VERITAS**

Test Report No.: W7L-P23070005RF03

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	51.53	47.51	74.00	-26.49	125	70
2	5150.00 (AV)	-4.02	50.83	46.81	54.00	-7.19	125	70
i 3	5200.00 (PK)	-3.91	106.03	102.12	74.00	28.12	125	70
*i 4	5200.00 (AV)	-3.91	97.32	93.41	54.00	39.41	125	70
5	5350.00 (PK)	-3.59	61.48	57.89	74.00	-16.11	125	70
6	5350.00 (AV)	-3.59	50.33	46.74	54.00	-7.26	125	70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	60.73	56.71	74.00	-17.29	100	255
2	5150.00 (AV)	-4.02	50.41	46.39	54.00	-7.61	100	255
i 3	5200.00 (PK)	-3.91	105.23	101.32	74.00	27.32	100	255
*i 4	5200.00 (AV)	-3.91	96.44	92.53	54.00	38.53	100	255
5	5350.00 (PK)	-3.59	61.24	57.65	74.00	-16.35	100	255
6	5350.00 (AV)	-3.59	50.30	46.71	54.00	-7.29	100	255

REMARKS:

- 1.Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5200MHz: Fundamental frequency.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.74	55.72	74.00	-18.28	125	70
2	5150.00 (AV)	-4.02	50.00	45.98	54.00	-8.02	125	70
i 3	5240.00 (PK)	-3.83	105.95	102.12	74.00	28.12	125	70
4	5240.00 (PK)	-3.83	59.10	55.27	74.00	-18.73	125	70
*i 5	5240.00 (AV)	-3.83	96.78	92.95	54.00	38.95	125	70
6	5240.00 (AV)	-3.83	50.49	46.66	54.00	-7.34	125	70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	60.26	56.24	74.00	-17.76	100	255
2	5150.00 (AV)	-4.02	50.33	46.31	54.00	-7.69	100	255
i 3	5240.00 (PK)	-3.83	104.86	101.03	74.00	27.03	100	255
*i 4	5240.00 (AV)	-3.83	95.65	91.82	54.00	37.82	100	255
5	5350.00 (PK)	-3.59	60.17	56.58	74.00	-17.42	100	255
6	5350.00 (AV)	-3.59	50.60	47.01	54.00	-8.99	100	255

REMARKS:

- 1.Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5240MHz: Fundamental frequency.



802.11ac (40MHz)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	65.28	61.26	74.00	-12.74	125	70
2	5150.00 (AV)	-4.02	54.87	50.85	54.00	-3.15	125	70
i 3	5190.00 (PK)	-3.93	103.34	99.41	74.00	25.41	125	70
*i 4	5190.00 (AV)	-3.93	94.42	90.49	54.00	36.49	125	70
5	5350.00 (PK)	-3.59	61.18	57.59	74.00	-16.41	125	70
6	5350.00 (AV)	-3.59	51.03	47.44	54.00	-6.56	125	70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	62.41	58.39	74.00	-15.61	100	87
2	5150.00 (AV)	-4.02	51.28	47.26	54.00	-6.74	100	87
i 3	5190.00 (PK)	-3.93	97.84	93.91	74.00	19.91	100	87
*i 4	5190.00 (AV)	-3.93	89.59	85.66	54.00	31.66	100	87
5	5350.00 (PK)	-3.59	59.81	56.22	74.00	-17.78	100	87
6	5350.00 (AV)	-3.59	50.30	46.71	54.00	-7.29	100	87

REMARKS:

- 1.Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5190MHz: Fundamental frequency.



**BUREAU
VERITAS**

Test Report No.: W7L-P23070005RF03

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	66.50	62.48	74.00	-11.52	125	70
2	5150.00 (AV)	-4.02	53.47	49.45	54.00	-4.55	125	70
i 3	5230.00 (PK)	-3.85	107.87	104.02	74.00	30.02	125	70
*i 4	5230.00 (AV)	-3.85	98.75	94.90	54.00	40.90	125	70
5	5350.00 (PK)	-3.59	60.36	56.77	74.00	-17.23	125	70
6	5350.00 (AV)	-3.59	51.26	47.67	54.00	-6.33	125	70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	61.83	57.81	74.00	-16.19	115	227
2	5150.00 (AV)	-4.02	51.18	47.16	54.00	-6.84	115	227
i 3	5230.00 (PK)	-3.85	102.00	98.15	74.00	24.15	115	227
*i 4	5230.00 (AV)	-3.85	93.24	89.39	54.00	35.39	115	227
5	5350.00 (PK)	-3.59	60.49	56.90	74.00	-17.10	115	227
6	5350.00 (AV)	-3.59	50.43	46.84	54.00	-7.16	115	227

REMARKS:

- 1.Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5230MHz: Fundamental frequency.



802.11ac (80MHz)

CHANNEL	TX Channel 42	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	63.01	58.99	74.00	-15.01	100	245
2	5150.00 (AV)	-4.02	53.24	49.22	54.00	-4.78	100	245
i 3	5210.00 (PK)	-3.89	95.96	92.07	74.00	18.07	100	245
*i 4	5210.00 (AV)	-3.89	86.23	82.34	54.00	28.34	100	245
5	5350.00 (PK)	-3.59	59.74	56.15	74.00	-17.85	100	245
6	5350.00 (AV)	-3.59	50.03	46.44	54.00	-7.56	100	245

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	64.37	60.35	74.00	-13.65	120	185
2	5150.00 (AV)	-4.02	54.56	50.54	54.00	-3.46	120	185
i 3	5210.00 (PK)	-3.89	96.10	92.21	74.00	18.21	120	185
*i 4	5210.00 (AV)	-3.89	87.85	83.96	54.00	29.96	120	185
5	5350.00 (PK)	-3.59	60.08	56.49	74.00	-17.51	120	185
6	5350.00 (AV)	-3.59	50.61	47.02	54.00	-6.98	120	185

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5210MHz: Fundamental frequency.

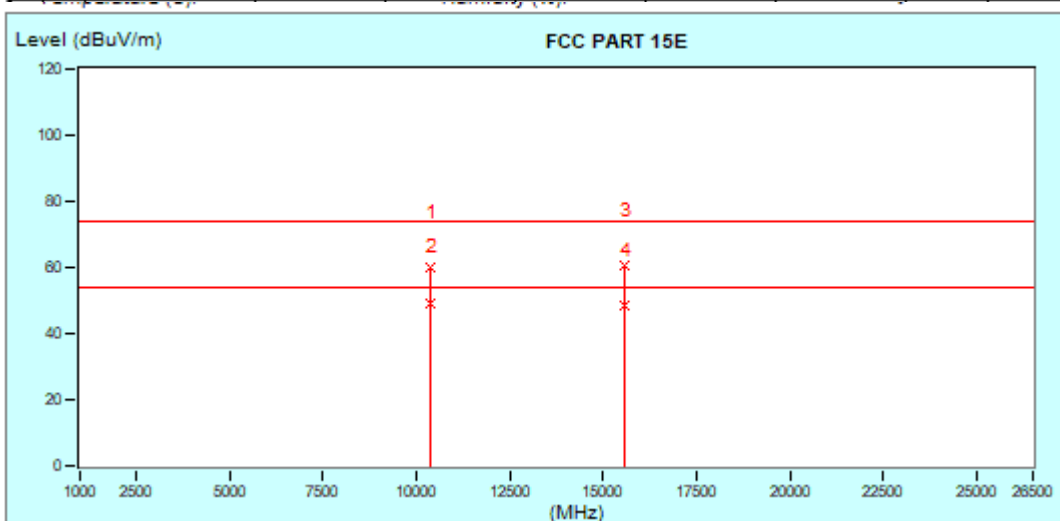


802.11ac (40MHz)

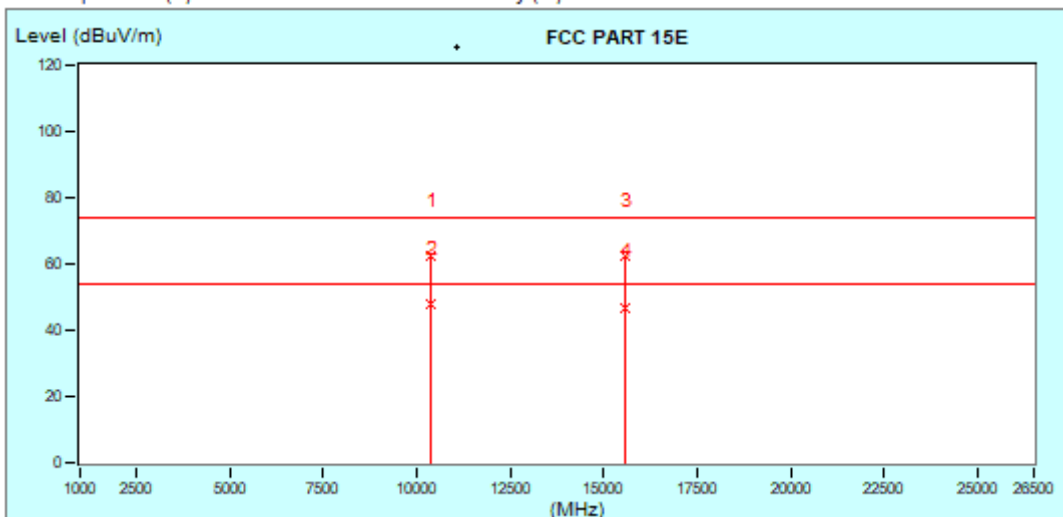
Worst case harmonic:

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
1	10380.00 (PK)	7.50	52.61	60.11	74.00	-13.89	100	360
* 2	10380.00 (AV)	7.50	41.87	49.37	54.00	-4.63	100	360
3	15570.00 (PK)	9.68	50.62	60.30	74.00	-13.70	100	360
4	15570.00 (AV)	9.68	38.61	48.29	54.00	-5.71	100	360



No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	10380.00 (PK)	7.50	54.85	62.35	74.00	-11.65	100	0
* 2	10380.00 (AV)	7.50	40.51	48.01	54.00	-5.99	100	0
3	15570.00 (PK)	9.68	52.61	62.29	74.00	-11.71	100	0
4	15570.00 (AV)	9.68	37.19	46.87	54.00	-7.13	100	0



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5190MHz: Fundamental frequency.
3. For frequency above 18GHz, the emission was tested 20db below the limit so the data not recorded in the sheet.



**BUREAU
VERITAS**

Test Report No.: W7L-P23070005RF03

Band 2

802.11a

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.86	55.84	74.00	-18.16	125	75
2	5150.00 (AV)	-4.02	49.89	45.87	54.00	-8.13	125	75
i 3	5260.00 (PK)	-3.78	110.20	106.42	74.00	32.42	125	75
*i 4	5260.00 (AV)	-3.78	101.86	98.08	54.00	44.08	125	75
5	5350.00 (PK)	-3.59	60.35	56.76	74.00	-17.24	125	75
6	5350.00 (AV)	-3.59	50.24	46.65	54.00	-7.35	125	75

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	60.52	56.50	74.00	-17.50	105	92
2	5150.00 (AV)	-4.02	50.18	46.16	54.00	-7.84	105	92
i 3	5260.00 (PK)	-3.78	106.72	102.94	74.00	28.94	105	92
*i 4	5260.00 (AV)	-3.78	97.17	93.39	54.00	39.39	105	92
5	5350.00 (PK)	-3.59	60.53	56.94	74.00	-17.06	105	92
6	5350.00 (AV)	-3.59	50.15	46.56	54.00	-7.44	105	92

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5260MHz: Fundamental frequency.

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.91	55.89	74.00	-18.11	125	75
2	5150.00 (AV)	-4.02	49.81	45.79	54.00	-8.21	125	75
i 3	5300.00 (PK)	-3.70	111.82	108.12	74.00	34.12	125	75
*i 4	5300.00 (AV)	-3.70	101.95	98.25	54.00	44.25	125	75
5	5350.00 (PK)	-3.59	60.04	56.45	74.00	-17.55	125	75
6	5350.00 (AV)	-3.59	50.28	46.69	54.00	-7.31	125	75

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.66	55.64	74.00	-18.36	105	92
2	5150.00 (AV)	-4.02	49.65	45.63	54.00	-8.37	105	92
i 3	5300.00 (PK)	-3.70	107.86	104.16	74.00	30.16	105	92
*i 4	5300.00 (AV)	-3.70	98.32	94.62	54.00	40.62	105	92
5	5350.00 (PK)	-3.59	60.34	56.75	74.00	-17.25	105	92
6	5350.00 (AV)	-3.59	50.07	46.48	54.00	-7.52	105	92

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5300MHz: Fundamental frequency.



**BUREAU
VERITAS**

Test Report No.: W7L-P23070005RF03

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	60.03	56.01	74.00	-17.99	125	75
2	5150.00 (AV)	-4.02	49.89	45.87	54.00	-8.13	125	75
i 3	5320.00 (PK)	-3.66	111.75	108.09	74.00	34.09	125	75
*i 4	5320.00 (AV)	-3.66	101.97	98.31	54.00	44.31	125	75
5	5350.00 (PK)	-3.59	64.57	60.98	74.00	-13.02	125	75
6	5350.00 (AV)	-3.59	54.43	50.84	54.00	-3.16	125	75

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.68	55.66	74.00	-18.34	105	92
2	5150.00 (AV)	-4.02	49.63	45.61	54.00	-8.39	105	92
i 3	5320.00 (PK)	-3.66	107.83	104.17	74.00	30.17	105	92
*i 4	5320.00 (AV)	-3.66	98.66	95.00	54.00	41.00	105	92
5	5350.00 (PK)	-3.59	63.60	60.01	74.00	-13.99	105	92
6	5350.00 (AV)	-3.59	53.89	50.30	54.00	-3.70	105	92

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5320MHz: Fundamental frequency.



802.11n (20MHz)

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	60.32	56.30	74.00	-17.70	125	75
2	5150.00 (AV)	-4.02	49.60	45.58	54.00	-8.42	125	75
i 3	5260.00 (PK)	-3.78	111.32	107.54	74.00	33.54	125	75
*i 4	5260.00 (AV)	-3.78	102.18	98.40	54.00	44.40	125	75
5	5350.00 (PK)	-3.59	60.37	56.78	74.00	-17.22	125	75
6	5350.00 (AV)	-3.59	50.24	46.65	54.00	-7.35	125	75

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.24	55.22	74.00	-18.78	133	12
2	5150.00 (AV)	-4.02	50.11	46.09	54.00	-7.91	133	12
i 3	5260.00 (PK)	-3.78	107.13	103.35	74.00	29.35	133	12
*i 4	5260.00 (AV)	-3.78	98.03	94.25	54.00	40.25	133	12
5	5350.00 (PK)	-3.59	60.32	56.73	74.00	-17.27	133	12
6	5350.00 (AV)	-3.59	50.11	46.52	54.00	-7.48	133	12

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5260MHz: Fundamental frequency.

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.65	55.63	74.00	-18.37	126	45
2	5150.00 (AV)	-4.02	49.86	45.84	54.00	-8.16	126	45
i 3	5300.00 (PK)	-3.70	109.39	105.69	74.00	31.69	126	45
*i 4	5300.00 (AV)	-3.70	99.22	95.52	54.00	41.52	126	45
5	5350.00 (PK)	-3.59	61.71	58.12	74.00	-15.88	126	45
6	5350.00 (AV)	-3.59	51.10	47.51	54.00	-6.49	126	45

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	60.33	56.31	74.00	-17.69	138	15
2	5150.00 (AV)	-4.02	50.25	46.23	54.00	-7.77	138	15
i 3	5300.00 (PK)	-3.70	107.79	104.09	74.00	30.09	138	15
*i 4	5300.00 (AV)	-3.70	99.15	95.45	54.00	41.45	138	15
5	5350.00 (PK)	-3.59	60.80	57.21	74.00	-16.79	138	15
6	5350.00 (AV)	-3.59	50.67	47.08	54.00	-6.92	138	15

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5300MHz: Fundamental frequency.



**BUREAU
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Test Report No.: W7L-P23070005RF03

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	60.78	56.76	74.00	-17.24	100	54
2	5150.00 (AV)	-4.02	49.71	45.69	54.00	-8.31	100	54
i 3	5320.00 (PK)	-3.66	110.14	106.48	74.00	32.48	100	54
*i 4	5320.00 (AV)	-3.66	99.62	95.96	54.00	41.96	100	54
5	5350.00 (PK)	-3.59	69.24	65.65	74.00	-8.35	100	54
6	5350.00 (AV)	-3.59	54.58	50.99	54.00	-3.01	100	54

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	60.72	56.70	74.00	-17.30	125	2
2	5150.00 (AV)	-4.02	49.78	45.76	54.00	-8.24	125	2
i 3	5320.00 (PK)	-3.66	107.15	103.49	74.00	29.49	125	2
*i 4	5320.00 (AV)	-3.66	98.06	94.40	54.00	40.40	125	2
5	5350.00 (PK)	-3.59	67.56	63.97	74.00	-10.03	125	2
6	5350.00 (AV)	-3.59	54.02	50.43	54.00	-3.57	125	2

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5320MHz: Fundamental frequency.



802.11n (40MHz)

CHANNEL	TX Channel 54	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	64.03	60.01	74.00	-13.99	100	85
2	5150.00 (AV)	-4.02	53.84	49.82	54.00	-4.18	100	85
i 3	5270.00 (PK)	-3.76	108.99	105.23	74.00	31.23	100	85
*i 4	5270.00 (AV)	-3.76	99.73	95.97	54.00	41.97	100	85
5	5350.00 (PK)	-3.59	65.14	61.55	74.00	-12.45	100	85
6	5350.00 (AV)	-3.59	54.13	50.54	54.00	-3.46	100	85

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	64.54	60.52	74.00	-13.48	100	135
2	5150.00 (AV)	-4.02	53.78	49.76	54.00	-4.24	100	135
i 3	5270.00 (PK)	-3.76	104.29	100.53	74.00	26.53	100	135
*i 4	5270.00 (AV)	-3.76	95.01	91.25	54.00	37.25	100	135
5	5350.00 (PK)	-3.59	65.61	62.02	74.00	-11.98	100	135
6	5350.00 (AV)	-3.59	53.86	50.27	54.00	-3.73	100	135

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5270MHz: Fundamental frequency.



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Test Report No.: W7L-P23070005RF03

CHANNEL	TX Channel 62	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.67	55.65	74.00	-18.35	100	85
2	5150.00 (AV)	-4.02	49.85	45.83	54.00	-8.17	100	85
i 3	5310.00 (PK)	-3.68	102.16	98.48	74.00	24.48	100	85
*i 4	5310.00 (AV)	-3.68	93.15	89.47	54.00	35.47	100	85
5	5350.00 (PK)	-3.59	65.65	62.06	74.00	-11.94	100	85
6	5350.00 (AV)	-3.59	54.52	50.93	54.00	-3.07	100	85

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.69	55.67	74.00	-18.33	100	135
2	5150.00 (AV)	-4.02	49.57	45.55	54.00	-8.45	100	135
i 3	5310.00 (PK)	-3.68	97.78	94.10	74.00	20.10	100	135
*i 4	5310.00 (AV)	-3.68	89.35	85.67	54.00	31.67	100	135
5	5350.00 (PK)	-3.59	62.58	58.99	74.00	-15.01	100	135
6	5350.00 (AV)	-3.59	51.15	47.56	54.00	-6.44	100	135

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 5310MHz: Fundamental frequency.



802.11ac (20MHz)

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.45	55.43	74.00	-18.57	100	85
2	5150.00 (AV)	-4.02	50.21	46.19	54.00	-7.81	100	85
i 3	5260.00 (PK)	-3.78	101.29	97.51	74.00	23.51	100	85
*i 4	5260.00 (AV)	-3.78	92.05	88.27	54.00	34.27	100	85
5	5350.00 (PK)	-3.59	60.84	57.25	74.00	-16.75	100	85
6	5350.00 (AV)	-3.59	49.65	46.06	54.00	-7.94	100	85

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.03	55.01	74.00	-18.99	100	175
2	5150.00 (AV)	-4.02	49.86	45.84	54.00	-8.16	100	175
i 3	5260.00 (PK)	-3.78	105.49	101.71	74.00	27.71	100	175
*i 4	5260.00 (AV)	-3.78	96.65	92.87	54.00	38.87	100	175
5	5350.00 (PK)	-3.59	60.52	56.93	74.00	-17.07	100	175
6	5350.00 (AV)	-3.59	50.21	46.62	54.00	-7.38	100	175

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5260MHz: Fundamental frequency.



CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.61	55.59	74.00	-18.41	100	85
2	5150.00 (AV)	-4.02	50.12	46.10	54.00	-7.90	100	85
i 3	5300.00 (PK)	-3.70	102.03	98.33	74.00	24.33	100	85
*i 4	5300.00 (AV)	-3.70	93.34	89.64	54.00	35.64	100	85
5	5350.00 (PK)	-3.59	60.38	56.79	74.00	-17.21	100	85
6	5350.00 (AV)	-3.59	50.17	46.58	54.00	-7.42	100	85

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.63	55.61	74.00	-18.39	100	180
2	5150.00 (AV)	-4.02	49.86	45.84	54.00	-8.16	100	180
i 3	5300.00 (PK)	-3.70	103.64	99.94	74.00	25.94	100	180
*i 4	5300.00 (AV)	-3.70	94.72	91.02	54.00	37.02	100	180
5	5350.00 (PK)	-3.59	59.96	56.37	74.00	-17.63	100	180
6	5350.00 (AV)	-3.59	50.04	46.45	54.00	-7.55	100	180

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5300MHz: Fundamental frequency.



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Test Report No.: W7L-P23070005RF03

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.78	55.76	74.00	-18.24	100	85
2	5150.00 (AV)	-4.02	49.91	45.89	54.00	-8.11	100	85
i 3	5320.00 (PK)	-3.66	103.54	99.88	74.00	25.88	100	85
*i 4	5320.00 (AV)	-3.66	94.62	90.96	54.00	36.96	100	85
5	5350.00 (PK)	-3.59	61.23	57.64	74.00	-16.36	100	85
6	5350.00 (AV)	-3.59	50.65	47.06	54.00	-6.94	100	85

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.85	55.83	74.00	-18.17	100	205
2	5150.00 (AV)	-4.02	50.03	46.01	54.00	-7.99	100	205
i 3	5320.00 (PK)	-3.66	104.94	101.28	74.00	27.28	100	205
4	5320.00 (PK)	-3.66	62.35	58.69	74.00	-15.31	100	205
*i 5	5320.00 (AV)	-3.66	95.86	92.20	54.00	38.20	100	205
6	5320.00 (AV)	-3.66	51.41	47.75	54.00	-6.25	100	205

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 5320MHz: Fundamental frequency.



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Test Report No.: W7L-P23070005RF03

802.11ac (40MHz)

CHANNEL	TX Channel 54	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.61	55.59	74.00	-18.41	100	85
2	5150.00 (AV)	-4.02	49.41	45.39	54.00	-8.61	100	85
i 3	5270.00 (PK)	-3.76	98.90	95.14	74.00	21.14	100	85
*i 4	5270.00 (AV)	-3.76	90.03	86.27	54.00	32.27	100	85
5	5350.00 (PK)	-3.59	59.22	55.63	74.00	-18.37	100	85
6	5350.00 (AV)	-3.59	49.70	46.11	54.00	-7.89	100	85

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.27	55.25	74.00	-18.75	100	85
2	5150.00 (AV)	-4.02	50.24	46.22	54.00	-7.78	100	85
i 3	5270.00 (PK)	-3.76	102.48	98.72	74.00	24.72	100	85
*i 4	5270.00 (AV)	-3.76	93.41	89.65	54.00	35.65	100	85
5	5350.00 (PK)	-3.59	59.52	55.93	74.00	-18.07	100	85
6	5350.00 (AV)	-3.59	49.97	46.38	54.00	-7.62	100	85

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 5270MHz: Fundamental frequency.



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Test Report No.: W7L-P23070005RF03

CHANNEL	TX Channel 62	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.50	55.48	74.00	-18.52	100	85
2	5150.00 (AV)	-4.02	49.26	45.24	54.00	-8.76	100	85
i 3	5310.00 (PK)	-3.68	99.81	96.13	74.00	22.13	100	85
*i 4	5310.00 (AV)	-3.68	90.32	86.64	54.00	32.64	100	85
5	5350.00 (PK)	-3.59	63.44	59.85	74.00	-14.15	100	85
6	5350.00 (AV)	-3.59	52.13	48.54	54.00	-5.46	100	85

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.89	55.87	74.00	-18.13	100	205
2	5150.00 (AV)	-4.02	49.55	45.53	54.00	-8.47	100	205
i 3	5310.00 (PK)	-3.68	99.86	96.18	74.00	22.18	100	205
*i 4	5310.00 (AV)	-3.68	91.65	87.97	54.00	33.97	100	205
5	5350.00 (PK)	-3.59	66.02	62.43	74.00	-11.57	100	205
6	5350.00 (AV)	-3.59	54.42	50.83	54.00	-3.17	100	205

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5310MHz: Fundamental frequency.



802.11ac (80MHz)

CHANNEL	TX Channel 58	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.64	55.62	74.00	-18.38	100	85
2	5150.00 (AV)	-4.02	50.26	46.24	54.00	-7.76	100	85
i 3	5290.00 (PK)	-3.72	98.30	92.58	74.00	18.58	100	85
*i 4	5290.00 (AV)	-3.72	87.89	84.17	54.00	30.17	100	85
5	5350.00 (PK)	-3.59	65.32	61.73	74.00	-12.27	100	85
6	5350.00 (AV)	-3.59	54.45	50.86	54.00	-3.14	100	85

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5150.00 (PK)	-4.02	59.71	55.69	74.00	-18.31	100	180
2	5150.00 (AV)	-4.02	50.28	46.26	54.00	-7.74	100	180
i 3	5290.00 (PK)	-3.72	98.23	94.51	74.00	20.51	100	180
*i 4	5290.00 (AV)	-3.72	89.36	85.64	54.00	31.64	100	180
5	5350.00 (PK)	-3.59	66.32	62.73	74.00	-11.27	100	180
6	5350.00 (AV)	-3.59	54.44	50.85	54.00	-3.15	100	180

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5290MHz: Fundamental frequency.



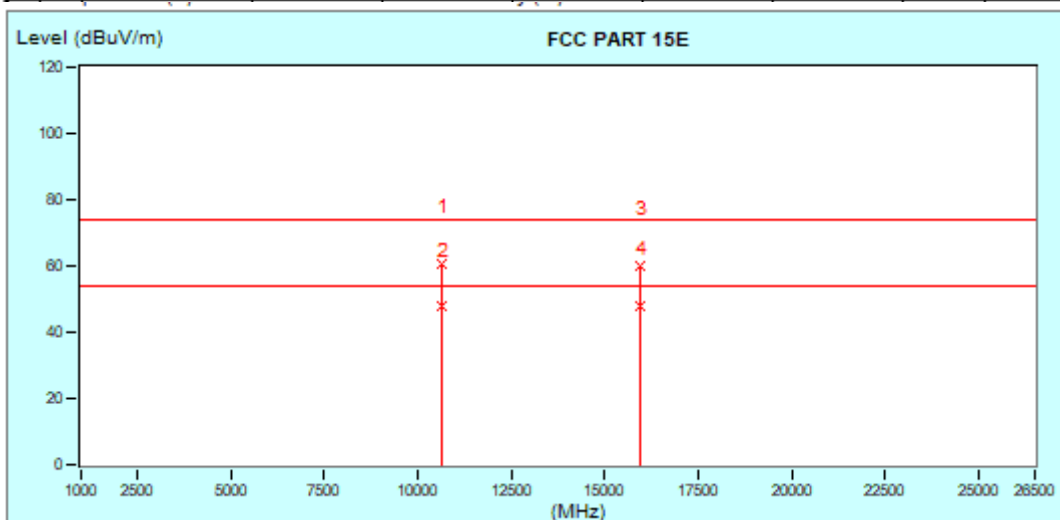
802.11n (20MHz)

Worst case harmonic:

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

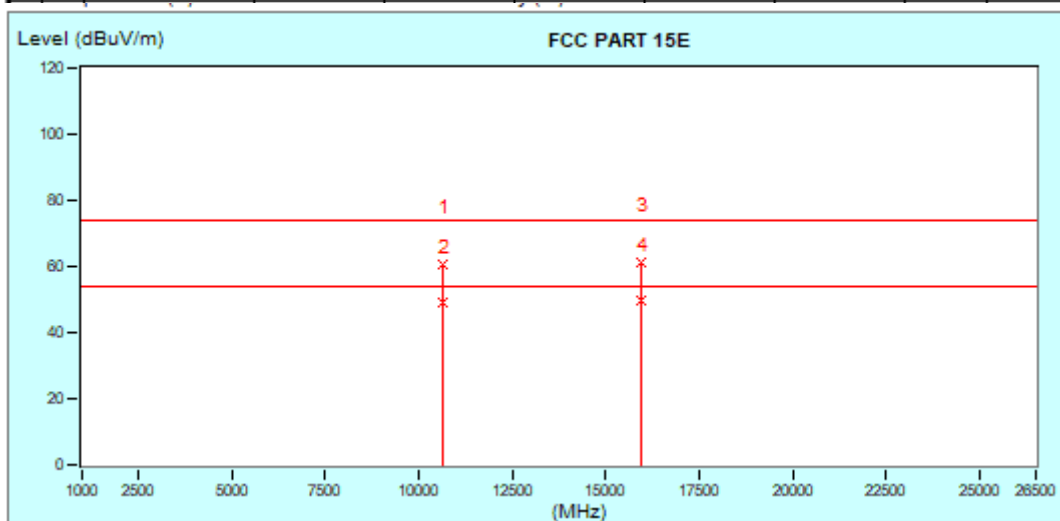
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	10640.00 (PK)	7.28	53.61	60.89	74.00	-13.11	100	0
2	10640.00 (AV)	7.28	40.56	47.84	54.00	-6.16	100	0
3	15960.00 (PK)	9.93	50.30	60.23	74.00	-13.77	100	0
4	15960.00 (AV)	9.93	38.19	48.12	54.00	-5.88	100	0





ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	10640.00 (PK)	7.28	53.61	60.89	74.00	-13.11	100	360
2	10640.00 (AV)	7.28	41.95	49.23	54.00	-4.77	100	360
3	15960.00 (PK)	9.93	51.52	61.45	74.00	-12.55	100	360
* 4	15960.00 (AV)	9.93	39.61	49.54	54.00	-4.46	100	360



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5320MHz: Fundamental frequency.
3. For frequency above 18GHz, the emission was tested 20db below the limit so the data not recorded in the sheet.



**BUREAU
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Test Report No.: W7L-P23070005RF03

Band 3

802.11a

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	61.01	57.65	74.00	-16.35	100	84
2	5460.00 (AV)	-3.36	52.09	48.73	54.00	-5.27	100	84
3	5470.00 (PK)	-3.33	63.93	60.60	68.20	-7.60	100	84
i 4	5500.00 (PK)	-3.27	99.75	96.48	68.20	28.28	100	84
*i 5	5500.00 (AV)	-3.27	90.86	87.59	54.00	33.59	100	84

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	61.62	58.26	74.00	-15.74	120	29
2	5460.00 (AV)	-3.36	50.68	47.32	54.00	-6.68	120	29
3	5470.00 (PK)	-3.33	65.92	62.59	68.20	-5.61	120	29
i 4	5500.00 (PK)	-3.27	100.84	97.57	68.20	29.37	120	29
*i 5	5500.00 (AV)	-3.27	91.92	88.65	54.00	34.65	120	29

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5500MHz: Fundamental frequency.

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	60.62	57.26	74.00	-16.74	100	84
2	5460.00 (AV)	-3.36	50.36	47.00	54.00	-7.00	100	84
3	5470.00 (PK)	-3.33	61.04	57.71	68.20	-10.49	100	84
i 4	5580.00 (PK)	-3.22	100.57	97.35	68.20	29.15	100	84
*i 5	5580.00 (AV)	-3.22	91.58	88.36	54.00	34.36	100	84

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	61.00	57.64	74.00	-16.36	110	360
2	5460.00 (AV)	-3.36	50.12	46.76	54.00	-7.24	110	360
3	5470.00 (PK)	-3.33	61.63	58.30	68.20	-9.90	110	360
i 4	5580.00 (PK)	-3.22	101.38	98.16	68.20	29.96	110	360
*i 5	5580.00 (AV)	-3.22	92.30	89.08	54.00	35.08	110	360

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5580MHz: Fundamental frequency.

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
i 1	5700.00 (PK)	-3.13	98.47	95.34	68.20	27.14	107	90
*i 2	5700.00 (AV)	-3.13	89.55	86.42	54.00	32.42	107	90
3	5725.00 (PK)	-3.11	63.89	60.78	68.20	-7.42	107	90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
i 1	5700.00 (PK)	-3.13	98.35	95.22	68.20	27.02	110	30
*i 2	5700.00 (AV)	-3.13	89.53	86.40	54.00	32.40	110	30
3	5725.00 (PK)	-3.11	63.62	60.51	68.20	-7.69	110	30

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5700MHz: Fundamental frequency.

CHANNEL	TX Channel 144	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5470.00 (PK)	-3.33	60.96	57.63	68.20	-10.57	107	104
i 2	5720.00 (PK)	-3.12	96.52	93.40	68.20	25.20	107	104
*i 3	5720.00 (AV)	-3.12	87.80	84.68	54.00	30.68	107	104
4	5850.00 (PK)	-3.03	61.42	58.39	68.20	-9.81	107	104

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5470.00 (PK)	-3.33	61.86	58.53	68.20	-9.67	100	28
i 2	5720.00 (PK)	-3.12	95.73	92.61	68.20	24.41	100	28
*i 3	5720.00 (AV)	-3.12	86.47	83.35	54.00	29.35	100	28
4	5850.00 (PK)	-3.03	60.62	57.59	68.20	-10.61	100	28

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5720MHz: Fundamental frequency.



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Test Report No.: W7L-P23070005RF03

802.11n (20MHz)

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	61.56	58.20	74.00	-15.80	100	90
2	5460.00 (AV)	-3.36	51.81	48.45	54.00	-5.55	100	90
3	5470.00 (PK)	-3.33	61.29	57.96	68.20	-10.24	100	90
i 4	5500.00 (PK)	-3.27	98.93	95.66	68.20	27.46	100	90
*i 5	5500.00 (AV)	-3.27	90.45	87.18	54.00	33.18	100	90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	62.28	58.92	74.00	-15.08	120	30
2	5460.00 (AV)	-3.36	52.03	48.67	54.00	-5.33	120	30
3	5470.00 (PK)	-3.33	60.75	57.42	68.20	-10.78	120	30
i 4	5500.00 (PK)	-3.27	99.88	96.61	68.20	28.41	120	30
*i 5	5500.00 (AV)	-3.27	91.24	87.97	54.00	33.97	120	30

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5500MHz: Fundamental frequency.



CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	60.45	57.09	74.00	-16.91	100	87
2	5460.00 (AV)	-3.36	52.13	48.77	54.00	-5.23	100	87
3	5470.00 (PK)	-3.33	61.44	58.11	68.20	-10.09	100	87
i 4	5580.00 (PK)	-3.22	101.01	97.79	68.20	29.59	100	87
*i 5	5580.00 (AV)	-3.22	92.56	89.34	54.00	35.34	100	87

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	60.91	57.55	74.00	-16.45	120	30
2	5460.00 (AV)	-3.36	51.56	48.20	54.00	-5.80	120	30
3	5470.00 (PK)	-3.33	60.55	57.22	68.20	-10.98	120	30
i 4	5580.00 (PK)	-3.22	102.92	99.70	68.20	31.50	120	30
*i 5	5580.00 (AV)	-3.22	94.56	91.34	54.00	37.34	120	30

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5580MHz: Fundamental frequency.

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
i 1	5700.00 (PK)	-3.13	98.14	95.01	68.20	26.81	100	87
*i 2	5700.00 (AV)	-3.13	89.64	86.51	54.00	32.51	100	87
3	5725.00 (PK)	-3.11	64.34	61.23	68.20	-6.97	100	87

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
i 1	5700.00 (PK)	-3.13	98.44	95.31	68.20	27.11	100	28
*i 2	5700.00 (AV)	-3.13	89.67	86.54	54.00	32.54	100	28
3	5725.00 (PK)	-3.11	63.85	60.74	68.20	-7.46	100	28

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5700MHz: Fundamental frequency.

CHANNEL	TX Channel 144	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5470.00 (PK)	-3.33	60.57	57.24	68.20	-10.96	100	89
i 2	5720.00 (PK)	-3.12	97.12	94.00	68.20	25.80	100	89
*i 3	5720.00 (AV)	-3.12	88.76	85.64	54.00	31.64	100	89
4	5850.00 (PK)	-3.03	60.78	57.75	68.20	-10.45	100	89

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5470.00 (PK)	-3.33	59.99	56.66	68.20	-11.54	100	30
i 2	5720.00 (PK)	-3.12	97.63	94.51	68.20	26.31	100	30
*i 3	5720.00 (AV)	-3.12	88.88	85.76	54.00	31.76	100	30
4	5850.00 (PK)	-3.03	61.09	58.06	68.20	-10.14	100	30

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5720MHz: Fundamental frequency.

802.11n (40MHz)

CHANNEL	TX Channel 102	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	60.58	57.22	74.00	-16.78	100	89
2	5460.00 (AV)	-3.36	52.17	48.81	54.00	-5.19	100	89
3	5470.00 (PK)	-3.33	63.60	60.27	68.20	-7.93	100	89
i 4	5510.00 (PK)	-3.26	95.21	91.95	68.20	23.75	100	89
*i 5	5510.00 (AV)	-3.26	86.51	83.25	54.00	29.25	100	89

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	62.09	58.73	74.00	-15.27	119	31
2	5460.00 (AV)	-3.36	52.19	48.83	54.00	-5.17	119	31
3	5470.00 (PK)	-3.33	62.35	59.02	68.20	-9.18	119	31
i 4	5510.00 (PK)	-3.26	95.53	92.27	68.20	24.07	119	31
*i 5	5510.00 (AV)	-3.26	86.94	83.68	54.00	29.68	119	31

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5510MHz: Fundamental frequency.



CHANNEL	TX Channel 110	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	60.09	56.73	74.00	-17.27	115	120
2	5460.00 (AV)	-3.36	51.90	48.54	54.00	-5.46	115	120
3	5470.00 (PK)	-3.33	60.95	57.62	68.20	-10.58	115	120
i 4	5550.00 (PK)	-3.24	95.36	92.12	68.20	23.92	115	120
*i 5	5550.00 (AV)	-3.24	87.06	83.83	54.00	29.83	115	120

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	60.13	56.77	74.00	-17.23	119	31
2	5460.00 (AV)	-3.36	51.79	48.43	54.00	-5.57	119	31
3	5470.00 (PK)	-3.33	60.69	57.36	68.20	-10.84	119	31
i 4	5550.00 (PK)	-3.24	96.94	93.71	68.20	25.51	119	31
*i 5	5550.00 (AV)	-3.24	88.53	85.29	54.00	31.29	119	31

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5500MHz: Fundamental frequency.

CHANNEL	TX Channel 134	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
i 1	5670.00 (PK)	-3.16	93.57	90.41	68.20	22.21	115	107
*i 2	5670.00 (AV)	-3.16	85.09	81.93	54.00	27.93	115	107
3	5725.00 (PK)	-3.11	62.73	59.62	68.20	-8.58	115	107

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
i 1	5670.00 (PK)	-3.16	92.53	89.37	68.20	21.17	100	28
*i 2	5670.00 (AV)	-3.16	83.99	80.83	54.00	26.83	100	28
3	5725.00 (PK)	-3.11	61.34	58.23	68.20	-9.97	100	28

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5670MHz: Fundamental frequency.



CHANNEL	TX Channel 142	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5470.00 (PK)	-3.33	62.26	58.93	68.20	-9.27	102	91
i 2	5710.00 (PK)	-3.13	94.13	91.00	68.20	22.80	102	91
*i 3	5710.00 (AV)	-3.13	85.72	82.59	54.00	28.59	102	91
4	5850.00 (PK)	-3.03	61.49	58.46	68.20	-9.74	102	91

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5470.00 (PK)	-3.33	60.79	57.46	68.20	-10.74	100	28
i 2	5710.00 (PK)	-3.13	93.99	90.86	68.20	22.66	100	28
*i 3	5710.00 (AV)	-3.13	85.07	81.94	54.00	27.94	100	28
4	5850.00 (PK)	-3.03	61.64	58.61	68.20	-9.59	100	28

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5710MHz: Fundamental frequency.



802.11ac (20MHz)

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	61.77	58.41	74.00	-15.59	100	89
2	5460.00 (AV)	-3.36	50.58	47.22	54.00	-6.78	100	89
3	5470.00 (PK)	-3.33	62.93	59.60	68.20	-8.60	100	89
i 4	5500.00 (PK)	-3.27	98.70	95.43	68.20	27.23	100	89
*i 5	5500.00 (AV)	-3.27	88.60	85.33	54.00	31.33	100	89

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	59.46	56.10	74.00	-17.90	120	28
2	5460.00 (AV)	-3.36	49.16	45.80	54.00	-8.20	120	28
3	5470.00 (PK)	-3.33	61.87	58.54	68.20	-9.66	120	28
i 4	5500.00 (PK)	-3.27	99.64	96.37	68.20	28.17	120	28
*i 5	5500.00 (AV)	-3.27	90.51	87.24	54.00	33.24	120	28

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5500MHz: Fundamental frequency.

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	61.33	57.97	74.00	-16.03	100	85
2	5460.00 (AV)	-3.36	50.46	47.10	54.00	-6.90	100	85
3	5470.00 (PK)	-3.33	61.98	58.65	68.20	-9.55	100	85
i 4	5580.00 (PK)	-3.22	101.07	97.85	68.20	29.65	100	85
*i 5	5580.00 (AV)	-3.22	90.90	87.68	54.00	33.68	100	85

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	61.10	57.74	74.00	-16.26	120	30
2	5460.00 (AV)	-3.36	50.39	47.03	54.00	-6.97	120	30
3	5470.00 (PK)	-3.33	61.08	57.75	68.20	-10.45	120	30
i 4	5580.00 (PK)	-3.22	102.59	99.37	68.20	31.17	120	30
*i 5	5580.00 (AV)	-3.22	92.42	89.20	54.00	35.20	120	30

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5580MHz: Fundamental frequency.

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
i 1	5700.00 (PK)	-3.13	97.32	94.19	68.20	25.99	100	89
*i 2	5700.00 (AV)	-3.13	87.32	84.19	54.00	30.19	100	89
3	5725.00 (PK)	-3.11	61.50	58.39	68.20	-9.81	100	89

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
i 1	5700.00 (PK)	-3.13	97.78	94.65	68.20	26.45	105	30
*i 2	5700.00 (AV)	-3.13	87.81	84.68	54.00	30.68	105	30
3	5725.00 (PK)	-3.11	62.83	59.72	68.20	-8.48	105	30

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5700MHz: Fundamental frequency.



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Test Report No.: W7L-P23070005RF03

CHANNEL	TX Channel 144	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5470.00 (PK)	-3.33	60.88	57.55	68.20	-10.65	100	89
i 2	5720.00 (PK)	-3.12	96.90	93.78	68.20	25.58	100	89
*i 3	5720.00 (AV)	-3.12	86.91	83.79	54.00	29.79	100	89
4	5850.00 (PK)	-3.03	60.98	57.95	68.20	-10.25	100	89

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5470.00 (PK)	-3.33	61.24	57.91	68.20	-10.29	105	30
i 2	5720.00 (PK)	-3.12	97.56	94.44	68.20	26.24	105	30
*i 3	5720.00 (AV)	-3.12	87.62	84.50	54.00	30.50	105	30
4	5850.00 (PK)	-3.03	60.98	57.95	68.20	-10.25	105	30

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5720MHz: Fundamental frequency.



802.11ac (40MHz)

CHANNEL	TX Channel 102	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	62.16	58.80	74.00	-15.20	103	89
2	5460.00 (AV)	-3.36	52.35	48.99	54.00	-5.01	103	89
3	5470.00 (PK)	-3.33	64.40	61.07	68.20	-7.13	103	89
i 4	5510.00 (PK)	-3.26	97.29	94.03	68.20	25.83	103	89
*i 5	5510.00 (AV)	-3.26	86.39	83.13	54.00	29.13	103	89

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	63.05	59.69	74.00	-14.31	120	30
2	5460.00 (AV)	-3.36	53.27	49.91	54.00	-4.09	120	30
3	5470.00 (PK)	-3.33	64.59	61.26	68.20	-6.94	120	30
i 4	5510.00 (PK)	-3.26	98.78	95.52	68.20	27.32	120	30
*i 5	5510.00 (AV)	-3.26	87.92	84.66	54.00	30.66	120	30

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5510MHz: Fundamental frequency.



CHANNEL	TX Channel 110	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	60.86	57.50	74.00	-16.50	100	83
2	5460.00 (AV)	-3.36	51.84	48.48	54.00	-5.52	100	83
3	5470.00 (PK)	-3.33	61.04	57.71	68.20	-10.49	100	83
i 4	5550.00 (PK)	-3.24	96.21	92.97	68.20	24.77	100	83
*i 5	5550.00 (AV)	-3.24	86.41	83.17	54.00	29.17	100	83

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	60.67	57.31	74.00	-16.69	120	30
2	5460.00 (AV)	-3.36	51.59	48.23	54.00	-5.77	120	30
i 3	5550.00 (PK)	-3.24	97.15	93.91	68.20	25.71	120	30
*i 4	5550.00 (AV)	-3.24	87.65	84.41	54.00	30.41	120	30
5	5740.00 (PK)	-3.10	61.58	58.48	68.20	-9.72	120	30

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5500MHz: Fundamental frequency.

CHANNEL	TX Channel 134	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
i 1	5670.00 (PK)	-3.16	94.28	91.12	68.20	22.92	100	90
*i 2	5670.00 (AV)	-3.16	84.02	80.86	54.00	26.86	100	90
3	5725.00 (PK)	-3.11	62.22	59.11	68.20	-9.09	100	90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
i 1	5670.00 (PK)	-3.16	94.32	91.16	68.20	22.96	110	30
*i 2	5670.00 (AV)	-3.16	84.57	81.41	54.00	27.41	110	30
3	5725.00 (PK)	-3.11	60.69	57.58	68.20	-10.62	110	30

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5670MHz: Fundamental frequency.

CHANNEL	TX Channel 142	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5470.00 (PK)	-3.33	61.03	57.70	68.20	-10.50	100	90
i 2	5710.00 (PK)	-3.13	91.47	88.34	68.20	20.14	100	90
*i 3	5710.00 (AV)	-3.13	81.84	78.71	54.00	24.71	100	90
4	5850.00 (PK)	-3.03	61.02	57.99	68.20	-10.21	100	90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5470.00 (PK)	-3.33	61.32	57.99	68.20	-10.21	100	30
i 2	5710.00 (PK)	-3.13	92.17	89.04	68.20	20.84	100	30
*i 3	5710.00 (AV)	-3.13	82.33	79.20	54.00	25.20	100	30
4	5850.00 (PK)	-3.03	60.81	57.78	68.20	-10.42	100	30

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5710MHz: Fundamental frequency.



802.11ac (80MHz)

CHANNEL	TX Channel 106	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	62.94	59.58	74.00	-14.42	100	90
2	5460.00 (AV)	-3.36	53.38	50.02	54.00	-3.98	100	90
3	5470.00 (PK)	-3.33	65.90	62.57	68.20	-5.63	100	90
i 4	5530.00 (PK)	-3.25	95.53	92.28	68.20	24.08	100	90
*i 5	5530.00 (AV)	-3.25	84.49	81.24	54.00	27.24	100	90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	62.57	59.21	74.00	-14.79	100	30
2	5460.00 (AV)	-3.36	53.12	49.76	54.00	-4.24	100	30
3	5470.00 (PK)	-3.33	66.32	62.99	68.20	-5.21	100	30
i 4	5530.00 (PK)	-3.25	94.93	91.68	68.20	23.48	100	30
*i 5	5530.00 (AV)	-3.25	83.63	80.38	54.00	26.38	100	30

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5530MHz: Fundamental frequency.



**BUREAU
VERITAS**

Test Report No.: W7L-P23070005RF03

CHANNEL	TX Channel 122	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	61.24	57.88	74.00	-16.12	100	90
2	5460.00 (AV)	-3.36	51.78	48.42	54.00	-5.58	100	90
3	5470.00 (PK)	-3.33	61.43	58.10	68.20	-10.10	100	90
i 4	5610.00 (PK)	-3.19	92.85	89.66	68.20	21.46	100	90
*i 5	5610.00 (AV)	-3.19	81.66	78.47	54.00	24.47	100	90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5460.00 (PK)	-3.36	61.72	58.36	74.00	-15.64	100	25
2	5460.00 (AV)	-3.36	52.27	48.91	54.00	-5.09	100	25
3	5470.00 (PK)	-3.33	61.07	57.74	68.20	-10.46	100	25
i 4	5610.00 (PK)	-3.19	92.91	89.72	68.20	21.52	100	25
*i 5	5610.00 (AV)	-3.19	82.03	78.84	54.00	24.84	100	25

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5610MHz: Fundamental frequency.



**BUREAU
VERITAS**

Test Report No.: W7L-P23070005RF03

CHANNEL	TX Channel 138	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5470.00 (PK)	-3.33	61.42	58.09	68.20	-10.11	110	90
i 2	5690.00 (PK)	-3.14	93.64	90.50	68.20	22.30	110	90
*i 3	5690.00 (AV)	-3.14	82.50	79.36	54.00	25.36	110	90
4	5850.00 (PK)	-3.03	61.27	58.24	68.20	-9.96	110	90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	5470.00 (PK)	-3.33	59.96	56.63	68.20	-11.57	100	360
i 2	5690.00 (PK)	-3.14	93.29	90.15	68.20	21.95	100	360
*i 3	5690.00 (AV)	-3.14	82.18	79.04	54.00	25.04	100	360
4	5850.00 (PK)	-3.03	60.87	57.84	68.20	-10.36	100	360

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5690MHz: Fundamental frequency.



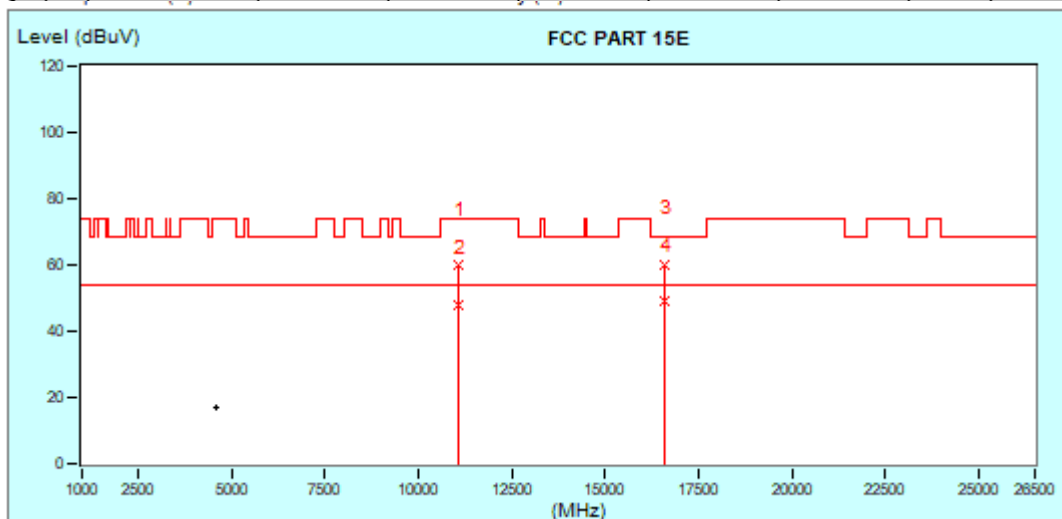
802.11ac (80MHz)

Worst case harmonic:

CHANNEL	TX Channel 106	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

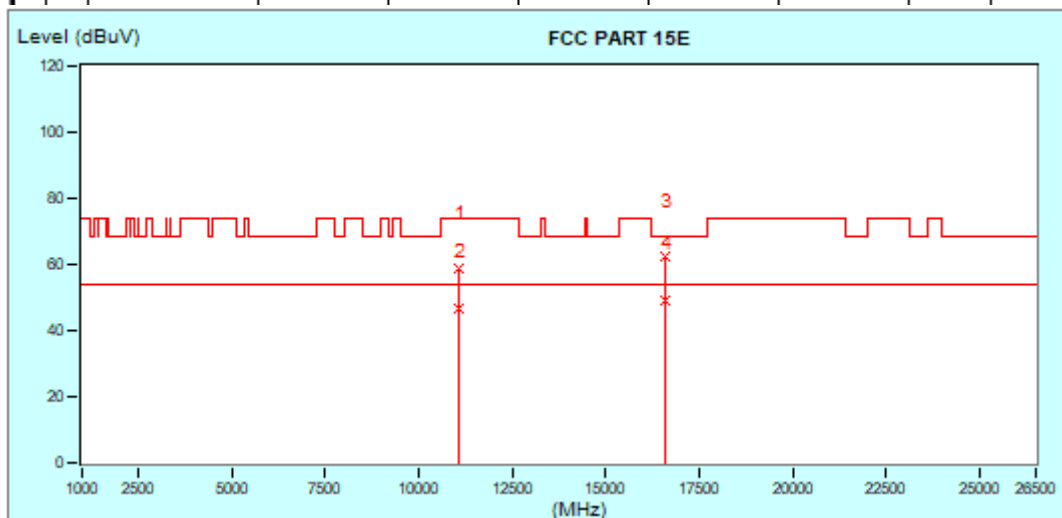
No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	11080.00 (PK)	7.50	52.64	60.14	74.00	-13.86	100	360
2	11080.00 (AV)	7.50	40.66	48.16	54.00	-5.84	100	360
3	16590.00 (PK)	11.79	48.37	60.16	68.20	-8.04	100	360
4	16590.00 (AV)	11.79	37.19	48.98	54.00	-5.02	100	360





ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB	Reading dBuV	Emission dBuV	Limit dBuV	Margin dB	Tower / Table cm deg	
1	11060.00 (PK)	7.50	51.01	58.51	74.00	-15.49	100	0
2	11060.00 (AV)	7.50	39.46	46.96	54.00	-7.04	100	0
3	16590.00 (PK)	11.79	50.63	62.42	68.20	-5.78	100	0
* 4	16590.00 (AV)	11.79	37.46	49.25	54.00	-4.75	100	0



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5530MHz: Fundamental frequency.
3. For frequency above 18GHz, the emission was tested 20db below the limit so the data not recorded in the sheet.

Band 4:

802.11a

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5745.00 (PK)	-3.10	95.34	92.24	74.00	18.24	120	105
*i 2	5745.00 (AV)	-3.10	86.23	83.13	54.00	29.13	120	105

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5745.00 (PK)	-3.10	94.45	91.35	74.00	17.35	100	180
*i 2	5745.00 (AV)	-3.10	84.68	81.58	54.00	27.58	100	180

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5745MHz: Fundamental frequency.



OOBE DATA

802.11a

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

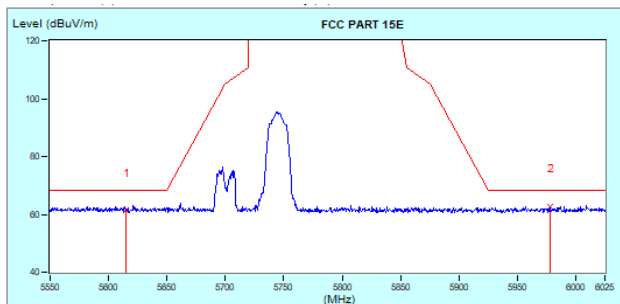
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5615.07 (PK)	-3.19	64.65	61.46	68.20	-6.74	100	0
2	5977.98 (PK)	-2.95	65.72	62.77	68.20	-5.43	100	0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

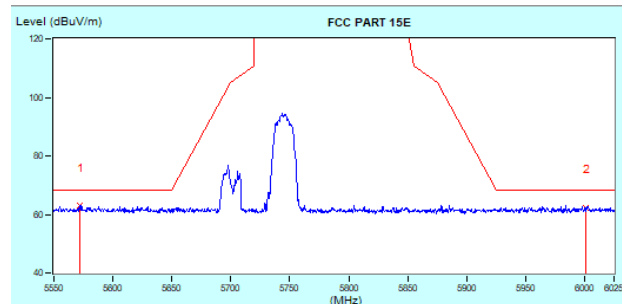
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5571.85 (PK)	-3.22	66.17	62.95	68.20	-5.25	100	0
2	6001.25 (PK)	-2.93	65.31	62.38	68.20	-5.82	100	0

CH 149

Horizontal



Vertical





CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5785.00 (PK)	-3.08	95.76	92.68	74.00	18.68	100	105
*i 2	5785.00 (AV)	-3.08	87.62	84.54	54.00	30.54	100	105

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5785.00 (PK)	-3.08	95.27	92.19	74.00	18.19	100	180
*i 2	5785.00 (AV)	-3.08	86.65	83.57	54.00	29.57	100	180

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5785MHz: Fundamental frequency.



OOBE DATA

802.11a

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

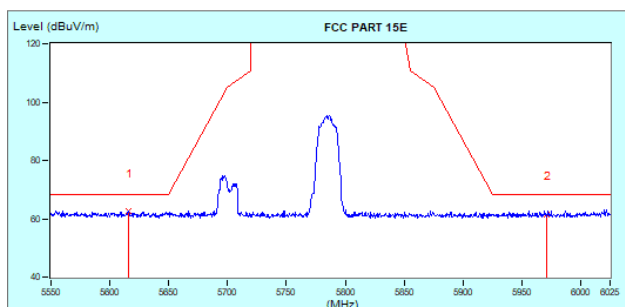
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
* 1	5616.02 (PK)	-3.19	65.66	62.47	68.20	-5.73	100	0
2	5970.85 (PK)	-2.95	64.51	61.56	68.20	-6.64	100	0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

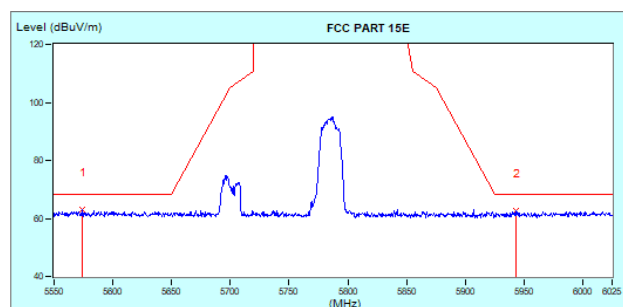
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
* 1	5573.75 (PK)	-3.22	66.10	62.88	68.20	-5.32	100	0
2	5942.82 (PK)	-2.96	65.44	62.48	68.20	-5.72	100	0

CH 157

Horizontal



Vertical





CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5825.00 (PK)	-3.05	95.32	92.27	74.00	18.27	100	105
*i 2	5825.00 (AV)	-3.05	88.65	83.60	54.00	29.60	100	105

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5825.00 (PK)	-3.05	97.74	94.69	74.00	20.69	100	180
*i 2	5825.00 (AV)	-3.05	89.65	86.60	54.00	32.60	100	180

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5825MHz: Fundamental frequency.



Oobe Data

802.11a

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

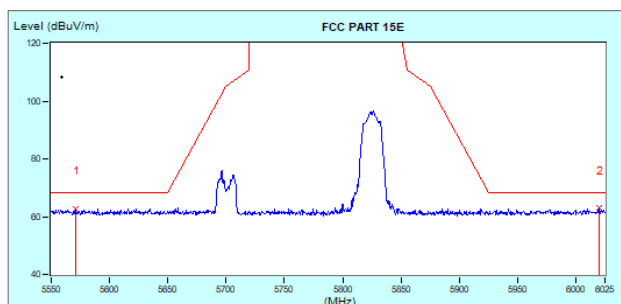
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5571.37 (PK)	-3.22	65.99	62.77	68.20	-5.43	100	0
* 2	6019.77 (PK)	-2.88	65.88	63.00	68.20	-5.20	100	0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

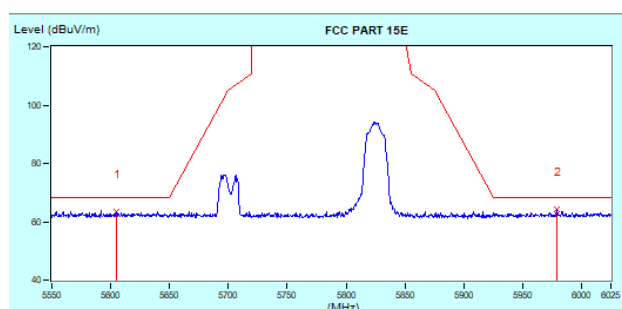
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5604.62 (PK)	-3.20	66.47	63.27	68.20	-4.93	100	0
* 2	5978.93 (PK)	-2.95	67.16	64.21	68.20	-3.99	100	0

CH 165

Horizontal



Vertical





802.11n (20MHz)

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5745.00 (PK)	-3.10	95.32	92.22	74.00	18.22	100	105
*i 2	5745.00 (AV)	-3.10	86.74	83.64	54.00	29.64	100	105

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5745.00 (PK)	-3.10	94.32	91.22	74.00	17.22	100	180
*i 2	5745.00 (AV)	-3.10	85.56	82.46	54.00	28.46	100	180

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5745MHz: Fundamental frequency.



OOBE DATA

802.11n (20MHZ)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

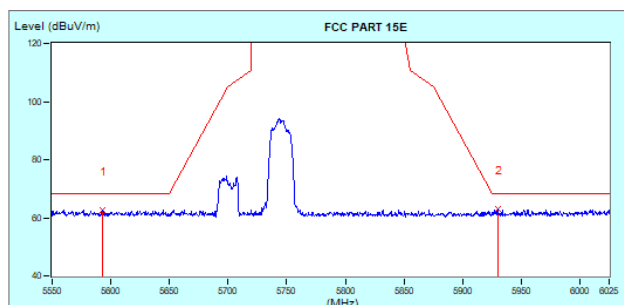
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5592.75 (PK)	-3.21	65.97	62.76	68.20	-5.44	100	0
* 2	5930.00 (PK)	-2.97	66.08	63.11	68.20	-5.09	100	0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

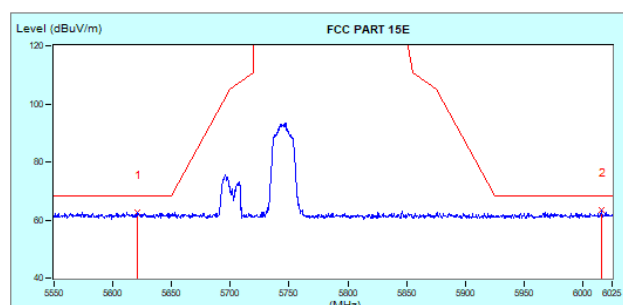
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5620.77 (PK)	-3.19	65.76*	62.57	68.20	-5.63	100	0
* 2	6016.45 (PK)	-2.89	66.28	63.39	68.20	-4.81	100	0

CH 149

Horizontal



Vertical





CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5785.00 (PK)	-3.08	95.12	92.04	74.00	18.04	100	105
*i 2	5785.00 (AV)	-3.08	86.85	83.77	54.00	29.77	100	105

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5785.00 (PK)	-3.08	94.26	91.18	74.00	17.18	100	180
*i 2	5785.00 (AV)	-3.08	85.79	82.71	54.00	28.71	100	180

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5785MHz: Fundamental frequency.



OOBE DATA

802.11n (20MHZ)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

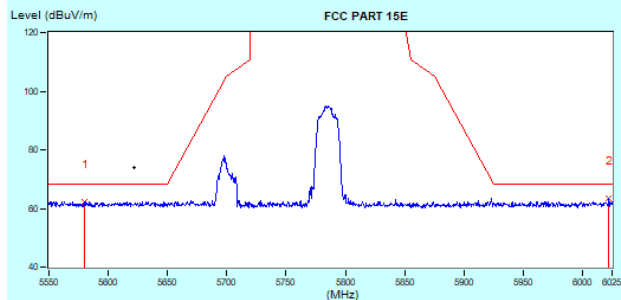
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5580.40 (PK)	-3.22	65.24	62.02	68.20	-6.18	100	0
2	6022.15 (PK)	-2.87	66.18	63.31	68.20	-4.89	100	0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

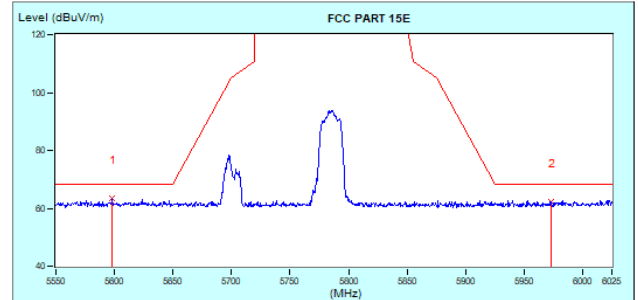
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5597.98 (PK)	-3.20	66.69	63.49	68.20	-4.71	100	0
2	5972.75 (PK)	-2.95	65.36	62.41	68.20	-5.79	100	0

CH 157

Horizontal



Vertical





CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5825.00 (PK)	-3.05	96.12	93.07	74.00	19.07	100	105
*i 2	5825.00 (AV)	-3.05	87.03	83.98	54.00	29.98	100	105

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5825.00 (PK)	-3.05	95.82	92.77	74.00	18.77	100	180
*i 2	5825.00 (AV)	-3.05	86.91	83.86	54.00	29.86	100	180

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5825MHz: Fundamental frequency.



OOBE DATA

802.11n (20MHz)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

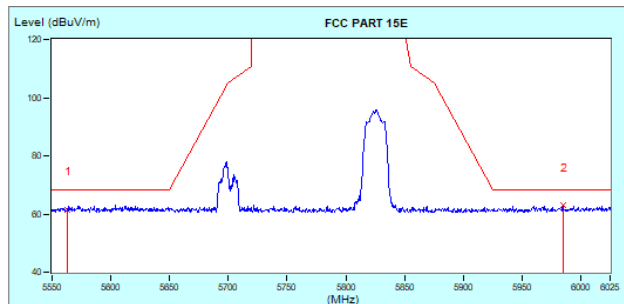
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
i 1	5825.00 (PK)	-3.05	95.82	92.77	74.00	18.77	100	180
*i 2	5825.00 (AV)	-3.05	86.91	83.86	54.00	29.86	100	180

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

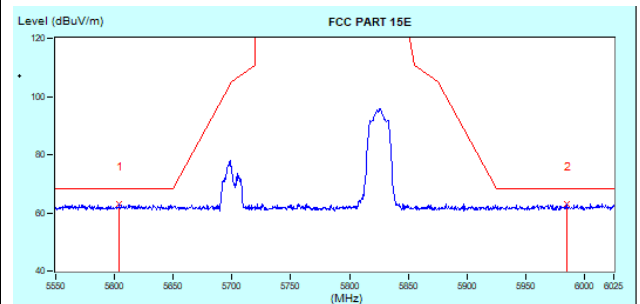
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5804.15 (PK)	-3.20	66.06	62.86	68.20	-5.34	100	0
* 2	5984.62 (PK)	-2.94	65.93	62.99	68.20	-5.21	100	0

CH 165

Horizontal



Vertical





802.11n (40MHz)

CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5755.00 (PK)	-3.10	91.85	88.75	74.00	14.75	100	180
*i 2	5755.00 (AV)	-3.10	83.21	80.11	54.00	26.11	100	180

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5755.00 (PK)	-3.10	92.77	89.67	74.00	15.67	100	105
*i 2	5755.00 (AV)	-3.10	84.26	81.16	54.00	27.16	100	105

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5755MHz: Fundamental frequency.



OOBE DATA

802.11n (40MHZ)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

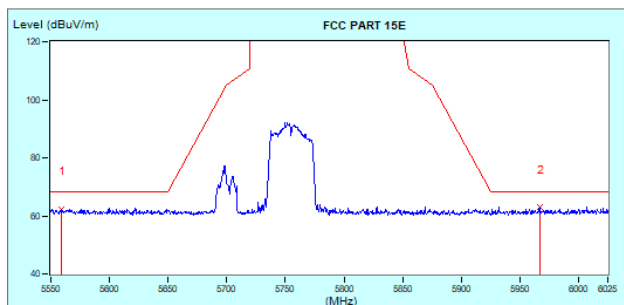
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5558.55 (PK)	-3.23	65.64	62.41	68.20	-5.79	100	0
* 2	5967.05 (PK)	-2.96	66.01	63.05	68.20	-5.15	100	0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

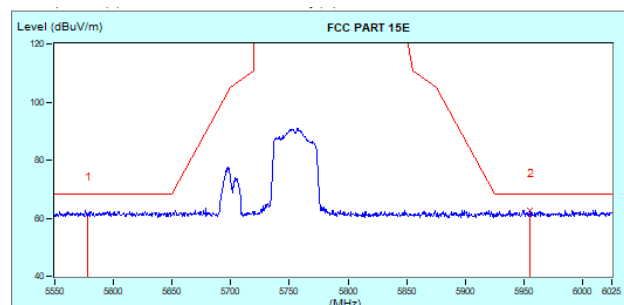
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5578.02 (PK)	-3.22	64.47	61.25	68.20	-6.95	100	0
* 2	5954.70 (PK)	-2.97	65.55	62.58	68.20	-5.62	100	0

CH 151

Horizontal



Vertical





CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5795.00 (PK)	-3.07	94.01	90.94	74.00	16.94	100	105
*i 2	5795.00 (AV)	-3.07	85.63	82.56	54.00	28.56	100	105

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5795.00 (PK)	-3.07	91.86	88.79	74.00	14.79	100	180
*i 2	5795.00 (AV)	-3.07	83.64	80.57	54.00	26.57	100	180

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5795MHz: Fundamental frequency.



OUBE DATA

802.11n (40MHZ)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

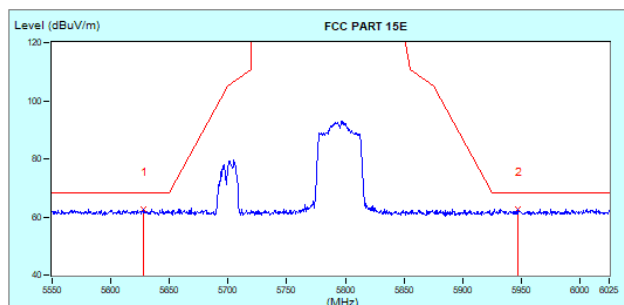
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5627.90 (PK)	-3.18	65.62	62.44	68.20	-5.76	100	0
* 2	5947.10 (PK)	-2.96	65.44	62.48	68.20	-5.72	100	0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

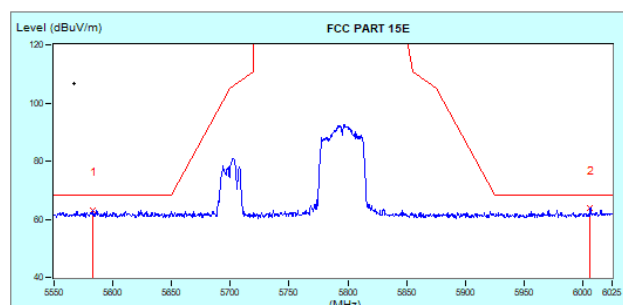
*No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5583.25 (PK)	-3.22	66.35	63.13	68.20	-5.07	100	0
* 2	6006.48 (PK)	-2.92	66.74	63.82	68.20	-4.38	100	0

CH 159

Horizontal



Vertical





802.11ac (20MHz)

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5745.00 (PK)	-3.10	95.56	92.46	74.00	18.46	100	105
*i 2	5745.00 (AV)	-3.10	86.13	83.03	54.00	29.03	100	105

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5745.00 (PK)	-3.10	94.65	91.55	74.00	17.55	100	180
*i 2	5745.00 (AV)	-3.10	85.91	82.81	54.00	28.81	100	180

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5745MHz: Fundamental frequency.



**BUREAU
VERITAS**

Test Report No.: W7L-P23070005RF03

Oobe Data

802.11ac (20MHz)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

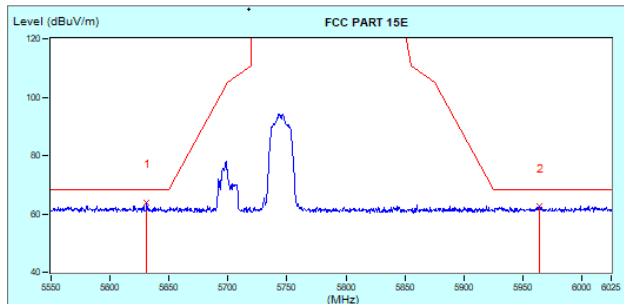
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5631.23 (PK)	-3.18	67.15	63.97	68.20	-4.23	100	0
2	5964.20 (PK)	-2.96	65.39	62.43	68.20	-5.77	100	0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

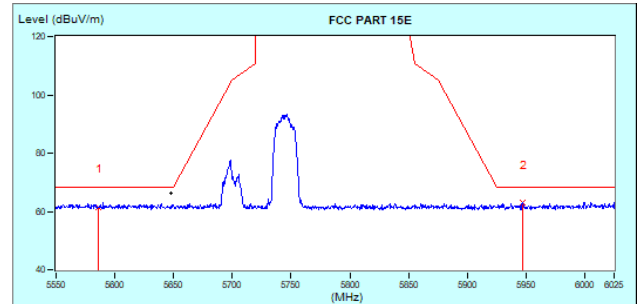
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5586.10 (PK)	-3.21	64.68	61.47	68.20	-6.73	100	0
2	5947.57 (PK)	-2.96	65.89	62.93	68.20	-5.27	100	0

CH 149

Horizontal



Vertical



CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5785.00 (PK)	-3.08	95.12	92.04	74.00	18.04	100	105
*i 2	5785.00 (AV)	-3.08	86.39	83.31	54.00	29.31	100	105

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5785.00 (PK)	-3.08	93.65	90.57	74.00	16.57	100	180
*i 2	5785.00 (AV)	-3.08	84.96	81.88	54.00	27.88	100	180

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5785MHz: Fundamental frequency.



**BUREAU
VERITAS**

Test Report No.: W7L-P23070005RF03

OOBE DATA

802.11ac (20MHz)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

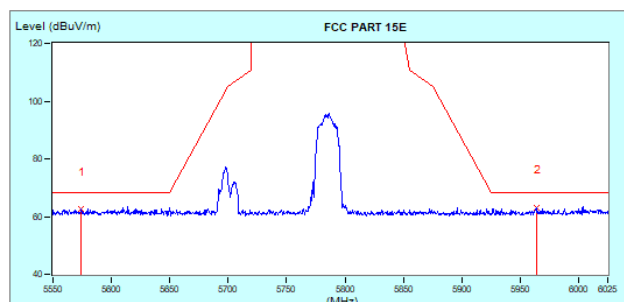
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5574.23 (PK)	-3.22	65.66	62.44	68.20	-5.76	100	0
2	5963.73 (PK)	-2.96	66.18	63.22	68.20	-4.98	100	0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

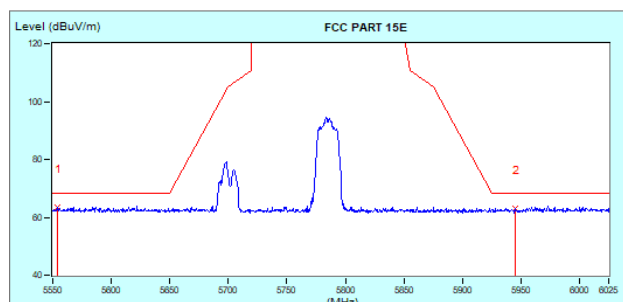
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
1	5554.27 (PK)	-3.24	66.85	63.61	68.20	-4.59	100	0
2	5945.20 (PK)	-2.96	66.09	63.13	68.20	-5.07	100	0

CH 157

Horizontal



Vertical



CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5825.00 (PK)	-3.05	95.96	92.91	74.00	18.91	100	105
*i 2	5825.00 (AV)	-3.05	87.03	83.98	54.00	29.98	100	105

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5825.00 (PK)	-3.05	94.26	91.21	74.00	17.21	100	180
*i 2	5825.00 (AV)	-3.05	85.61	82.56	54.00	28.56	100	180

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5825MHz: Fundamental frequency.



OOBE DATA

802.11ac (20MHZ)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

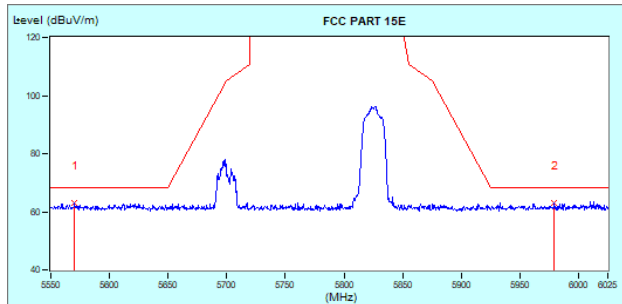
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5569.95 (PK)	-3.23	66.14	62.91	68.20	-5.29	100	0
* 2	5979.40 (PK)	-2.95	65.98	63.03	68.20	-5.17	100	0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

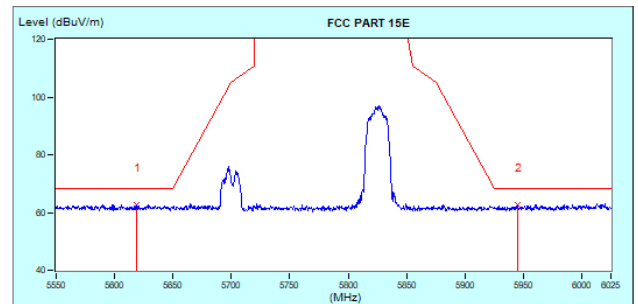
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5618.87 (PK)	-3.19	65.66	62.47	68.20	-5.73	100	0
* 2	5945.20 (PK)	-2.96	65.47	62.51	68.20	-5.69	100	0

CH 165

Horizontal



Vertical





802.11ac (40MHz)

CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5755.00 (PK)	-3.10	91.65	88.55	74.00	14.55	100	105
*i 2	5755.00 (AV)	-3.10	83.26	80.16	54.00	26.16	100	105

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5755.00 (PK)	-3.10	90.65	87.55	74.00	13.55	100	180
*i 2	5755.00 (AV)	-3.10	82.03	78.93	54.00	24.93	100	180

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5755MHz: Fundamental frequency.



OOBE DATA

802.11ac (40MHZ)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

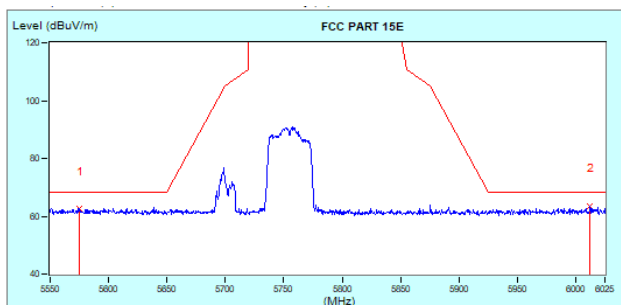
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5574.70 (PK)	-3.22	65.66	62.44	68.20	-5.76	100	0
2	6012.18 (PK)	-2.90	66.48	63.58	68.20	-4.62	100	0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

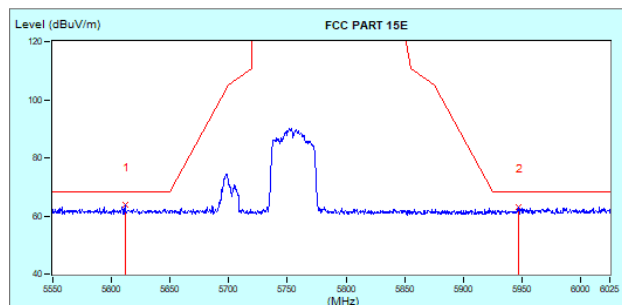
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5611.75 (PK)	-3.19	66.97	63.78	68.20	-4.42	100	0
2	5947.10 (PK)	-2.96	66.06	63.10	68.20	-5.10	100	0

CH 151

Horizontal



Vertical





CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5795.00 (PK)	-3.07	93.32	90.25	74.00	16.25	100	105
*i 2	5795.00 (AV)	-3.07	84.16	81.09	54.00	27.09	100	105

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5795.00 (PK)	-3.07	92.56	89.49	74.00	15.49	100	180
*i 2	5795.00 (AV)	-3.07	83.65	80.58	54.00	26.58	100	180

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5795MHz: Fundamental frequency.



OBE DATA

802.11ac (40MHZ)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

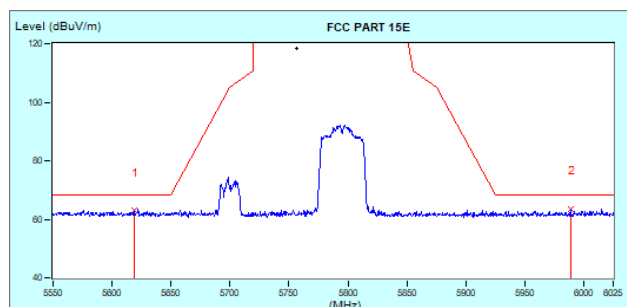
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5618.40 (PK)	-3.19	66.18	62.99	68.20	-5.21	100	0
2	5988.90 (PK)	-2.94	66.49	63.55	68.20	-4.65	100	0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

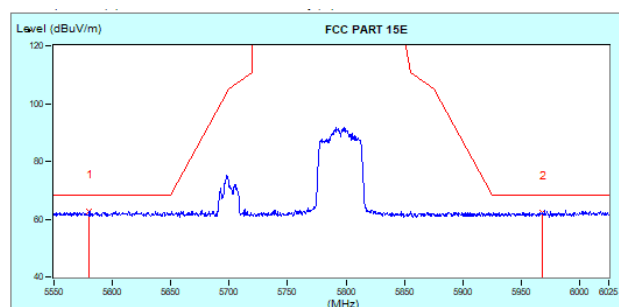
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5579.93 (PK)	-3.22	65.84	62.62	68.20	-5.58	100	0
2	5968.48 (PK)	-2.95	64.99	62.04	68.20	-6.16	100	0

CH 159

Horizontal



Vertical





802.11ac (80MHz)

CHANNEL	TX Channel 155	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5775.00 (PK)	-3.09	89.68	86.59	74.00	12.59	100	105
*i 2	5775.00 (AV)	-3.09	82.57	79.48	54.00	25.48	100	105

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table cm deg	
i 1	5775.00 (PK)	-3.09	90.52	87.43	74.00	13.43	100	175
*i 2	5775.00 (AV)	-3.09	83.18	80.09	54.00	26.09	100	175

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. 5775MHz: Fundamental frequency.



Oobe Data

802.11ac (80MHz)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

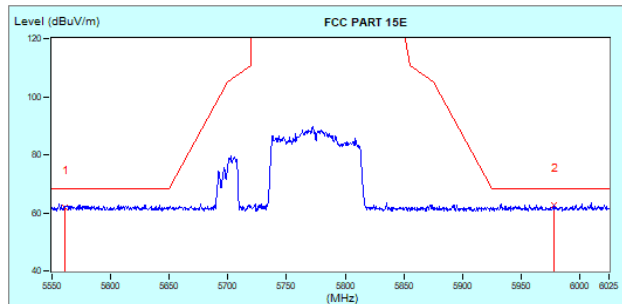
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5581.40 (PK)	-3.23	64.88	61.65	68.20	-6.55	100	0
2	5978.45 (PK)	-2.95	65.39	62.44	68.20	-5.76	100	0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

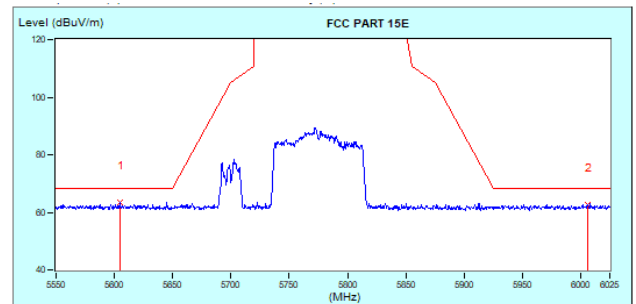
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	5604.62 (PK)	-3.20	66.61	63.41	68.20	-4.79	100	0
2	6006.00 (PK)	-2.92	65.59	62.67	68.20	-5.53	100	0

CH 155

Horizontal



Vertical





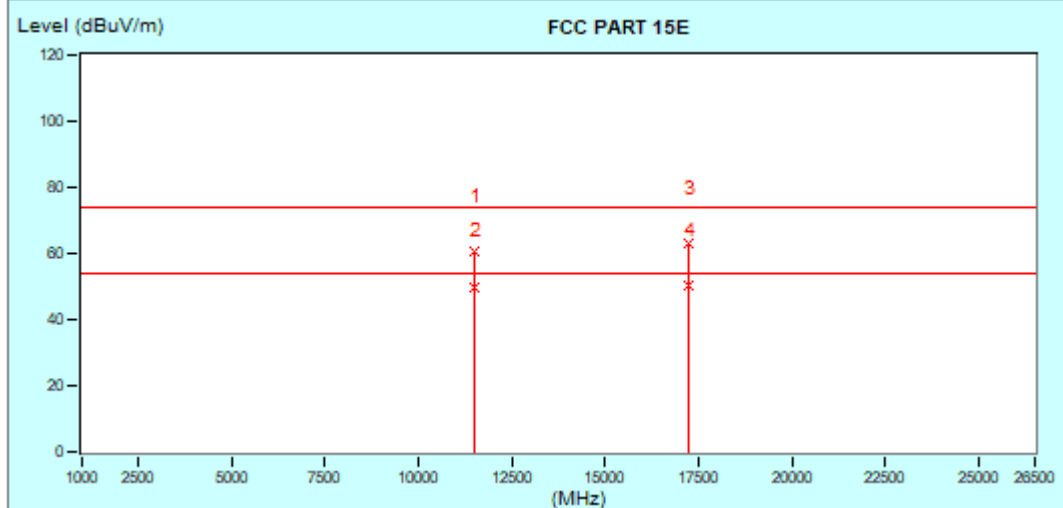
802.11ac (20MHZ)

Worst case harmonic:

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

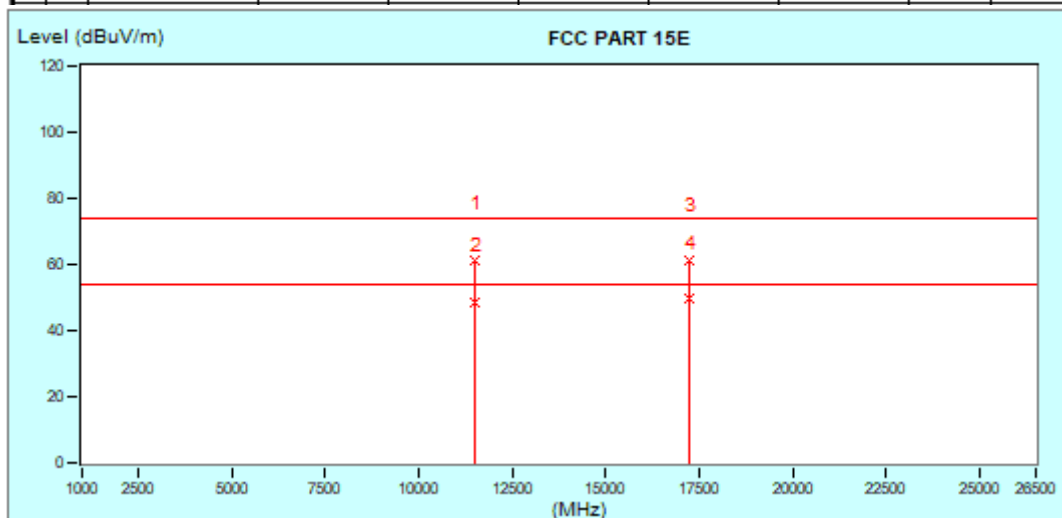
No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	11490.00 (PK)	11.14	49.17	60.31	74.00	-13.69	100	0
2	11490.00 (AV)	11.14	38.77	49.91	54.00	-4.09	100	0
3	17235.00 (PK)	13.68	49.26	62.94	74.00	-11.06	100	0
* 4	17235.00 (AV)	13.68	36.54	50.22	54.00	-3.78	100	0





ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency MHz	Factor dB/m	Reading dBuV	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower / Table	
							cm	deg
1	11490.00 (PK)	11.14	50.27	61.41	74.00	-12.59	100	360
2	11490.00 (AV)	11.14	37.50	48.64	54.00	-5.36	100	360
3	17235.00 (PK)	13.68	47.42	61.10	74.00	-12.90	100	360
4	17235.00 (AV)	13.68	36.03	49.71	54.00	-4.29	100	360



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 5745MHz: Fundamental frequency.
3. For frequency above 18GHz, the emission was tested 20db below the limit so the data not recorded in the sheet.

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	101900	Feb. 14,23	Feb. 13,24
EMC32 test software	Rohde&Schwarz	EMC32	NA	NA	NA
LISN network	Rohde&Schwarz	ENV216	101922	Mar. 03,23	Mar. 02,24

NOTE:

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

3.2.3 TEST PROCEDURES

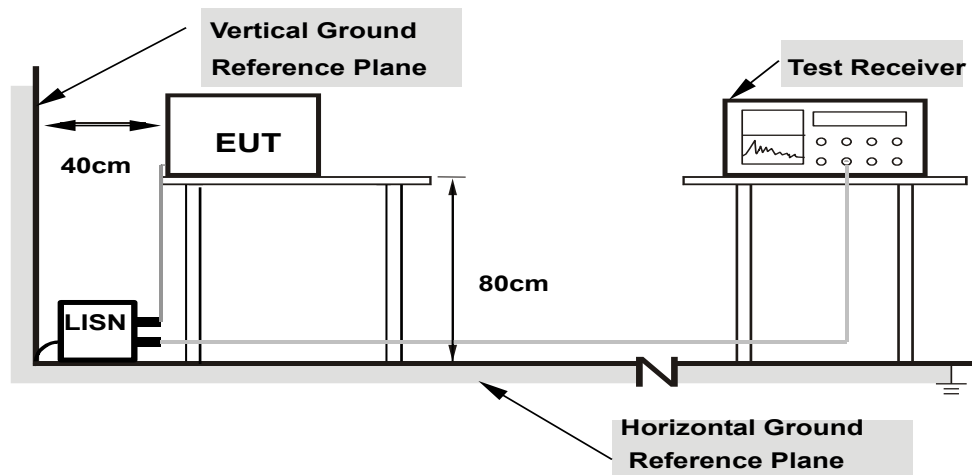
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling 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) were not recorded.

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

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 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

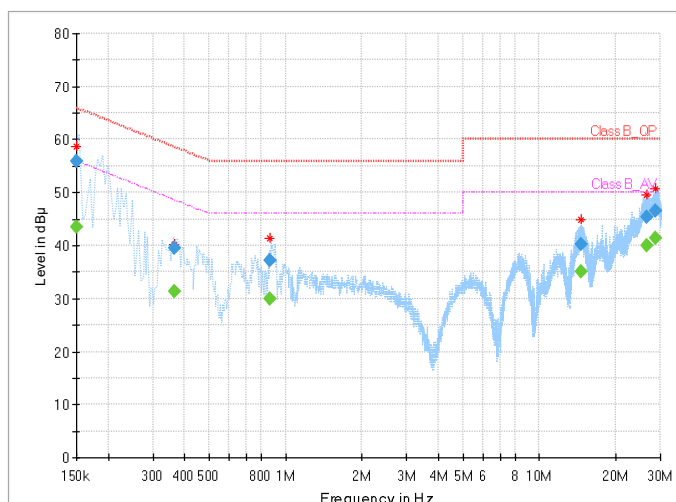
CONDUCTED WORST-CASE DATA:

Frequency Range	150KHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120Vac, 60Hz	Environmental Conditions	26deg. C, 51%RH
Tested By	Carl Xie		

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.150000	---	43.59	56.00	12.41	L1	ON	9.7
0.150000	55.92	---	66.00	10.08	L1	ON	9.7
0.364000	---	31.37	48.64	17.27	L1	ON	9.7
0.364000	39.63	---	58.64	19.01	L1	ON	9.7
0.872000	---	29.90	46.00	16.10	L1	ON	9.7
0.872000	37.08	---	56.00	18.92	L1	ON	9.7
14.560000	---	34.99	50.00	15.01	L1	ON	9.8
14.560000	40.15	---	60.00	19.85	L1	ON	9.8
26.460000	---	39.98	50.00	10.02	L1	ON	9.8
26.460000	45.30	---	60.00	14.70	L1	ON	9.8
28.808000	---	41.39	50.00	8.61	L1	ON	9.8
28.808000	46.55	---	60.00	13.45	L1	ON	9.8

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Limit value - Emission level
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.

Full Spectrum

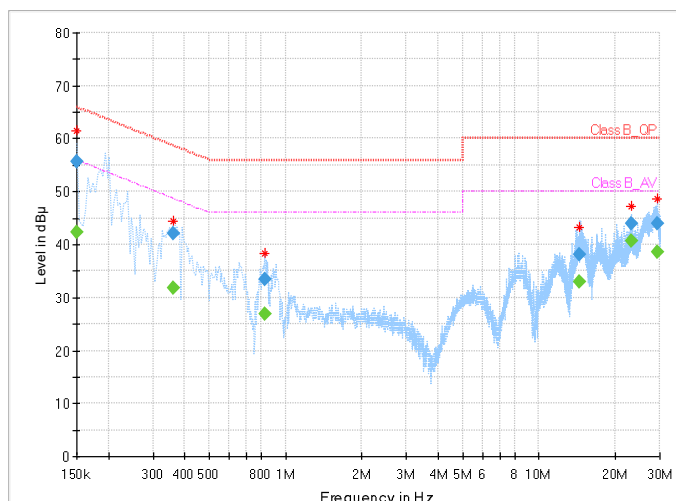


Frequency Range	150KHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120Vac, 60Hz	Environmental Conditions	26deg. C, 51%RH
Tested By	Carl Xie		

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.150000	---	42.24	56.00	13.76	N	ON	9.7
0.150000	55.62	---	66.00	10.38	N	ON	9.7
0.360000	---	31.89	48.73	16.84	N	ON	9.7
0.360000	42.05	---	58.73	16.68	N	ON	9.7
0.832000	---	26.98	46.00	19.02	N	ON	9.7
0.832000	33.46	---	56.00	22.54	N	ON	9.7
14.432000	---	32.99	50.00	17.01	N	ON	9.8
14.432000	38.11	---	60.00	21.89	N	ON	9.8
23.128000	---	40.75	50.00	9.25	N	ON	9.9
23.128000	44.08	---	60.00	15.92	N	ON	9.9
29.232000	---	38.60	50.00	11.40	N	ON	9.9
29.232000	43.88	---	60.00	16.12	N	ON	9.9

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Limit value - Emission level
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.

Full Spectrum



3.3 MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

3.3.1 LIMITS OF MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

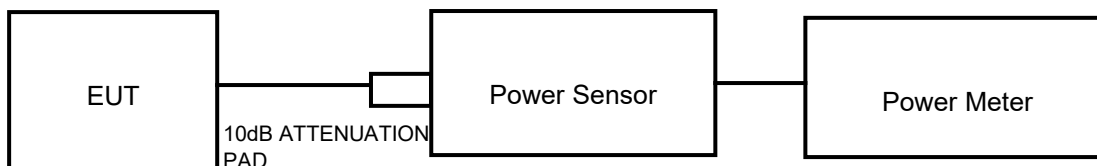
Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	√	Client devices	250mW (24 dBm)
U-NII-2A	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	√		1 Watt (30 dBm)

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

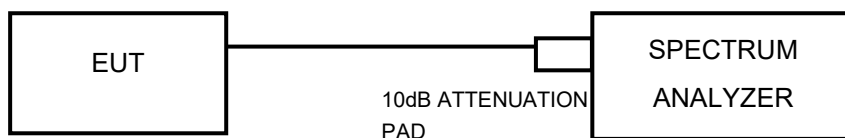
3.3.2 TEST SETUP

FOR POWER OUTPUT MEASUREMENT

802.11a, 802.11n/ac (20MHz), 802.11 n/ac (40MHz), 802.11ac (80MHz) TEST CONFIGURATION



FOR 26dB BANDWIDTH



3.3.3 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power Meter	ANRITSU	ML2495A	1506002	Feb. 14,23	Feb. 13,24
EXA Signal Analyzer	KEYSIGHT	N9010A-526	MY54510523	Feb. 14,23	Feb. 13,24
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.10,23	May.09,24
Power Sensor	ANRITSU	MA2411B	1339352	Feb. 14,23	Feb. 13,24

NOTE:

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

3.3.4 TEST PROCEDURE

FOR POWER MEASUREMENT

For 802.11a, 802.11 n/ac (20MHz), 802.11 n/ac (40MHz) , 802.11ac (80MHz)

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 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.

3.3.5 DEVIATION FROM TEST STANDARD

No deviation.

3.3.6 EUT OPERATING CONDITIONS

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

3.3.7 TEST RESULTS

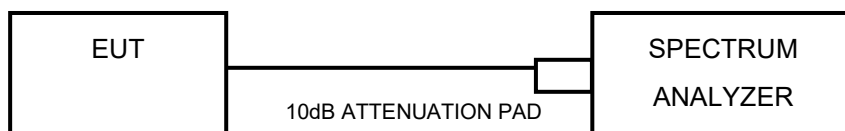
Please Refer to Appendix Of this test report.

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-2A	√		11dBm/ MHz
U-NII-2C	√		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 about the 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.



Test Report No.: W7L-P23070005RF03

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 signaling 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 about the 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 transmits 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

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit and PSD limit.

4 PHOTOGRAPHS OF THE TEST CONFIGURATION

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

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.

6 APPENDIX: RLAN EMISSION BANDWIDTH

TEST RESULT

TestMode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	35.640	5161.080	5196.720	---	---
		5200	31.360	5185.160	5216.520	---	---
		5240	29.640	5225.120	5254.760	---	---
		5260	37.680	5241.560	5279.240	---	---
		5300	31.400	5285.160	5316.560	---	---
		5320	37.720	5301.080	5338.800	---	---
		5500	31.600	5485.080	5516.680	---	---
		5580	31.480	5565.160	5596.640	---	---
		5700	31.280	5685.160	5716.440	---	---
		5720	21.040	5709.560	5730.600	---	---
		5720_UNII-2C	15.44	5709.560	5725	---	---
		5720_UNII-3	5.6	5725	5730.600	---	---
		5745	20.240	5734.760	5755.000	---	---
		5785	20.200	5774.920	5795.120	---	---
		5825	20.360	5814.800	5835.160	---	---
11N20SISO	Ant1	5180	31.320	5163.360	5194.680	---	---
		5200	33.680	5184.800	5218.480	---	---
		5240	30.120	5225.000	5255.120	---	---
		5260	33.040	5243.560	5276.600	---	---
		5300	39.000	5280.600	5319.600	---	---
		5320	37.760	5301.080	5338.840	---	---
		5500	24.520	5487.720	5512.240	---	---
		5580	32.560	5564.920	5597.480	---	---
		5700	30.200	5686.160	5716.360	---	---
		5720	24.400	5707.680	5732.080	---	---
		5720_UNII-2C	17.32	5707.680	5725	---	---
		5720_UNII-3	7.08	5725	5732.080	---	---
		5745	20.520	5734.720	5755.240	---	---
		5785	20.880	5774.560	5795.440	---	---
		5825	20.880	5814.520	5835.400	---	---



11N40SISO	Ant1	5190	66.160	5161.520	5227.680	---	---
		5230	63.680	5202.320	5266.000	---	---
		5270	63.360	5244.400	5307.760	---	---
		5310	54.080	5285.440	5339.520	---	---
		5510	53.680	5485.600	5539.280	---	---
		5550	54.960	5524.800	5579.760	---	---
		5670	53.360	5645.680	5699.040	---	---
		5710	55.120	5684.480	5739.600	---	---
		5710_UNII-2C	40.52	5684.480	5725	---	---
		5710_UNII-3	14.6	5725	5739.600	---	---
		5755	39.360	5735.320	5774.680	---	---
		5795	39.280	5775.160	5814.440	---	---
11AC20SISO	Ant1	5180	24.840	5167.720	5192.560	---	---
		5200	25.960	5188.160	5214.120	---	---
		5240	23.120	5228.880	5252.000	---	---
		5260	23.320	5248.480	5271.800	---	---
		5300	24.440	5287.240	5311.680	---	---
		5320	20.920	5309.480	5330.400	---	---
		5500	20.760	5489.760	5510.520	---	---
		5580	26.160	5567.120	5593.280	---	---
		5700	21.920	5689.160	5711.080	---	---
		5720	21.040	5709.560	5730.600	---	---
		5720_UNII-2C	15.44	5709.560	5725	---	---
		5720_UNII-3	5.6	5725	5730.600	---	---
		5745	20.840	5734.480	5755.320	---	---
		5785	21.000	5774.360	5795.360	---	---
		5825	21.120	5814.480	5835.600	---	---
11AC40SISO	Ant1	5190	63.280	5164.400	5227.680	---	---
		5230	61.520	5206.240	5267.760	---	---
		5270	61.040	5246.800	5307.840	---	---
		5310	60.720	5286.960	5347.680	---	---
		5510	63.440	5484.240	5547.680	---	---
		5550	39.440	5530.320	5569.760	---	---
		5670	39.360	5650.320	5689.680	---	---
		5710	39.360	5690.240	5729.600	---	---



		5710_UNII-2C	34.76	5690.240	5725	---	---
		5710_UNII-3	4.6	5725	5729.600	---	---
		5755	39.840	5735.000	5774.840	---	---
		5795	39.360	5775.320	5814.680	---	---
11AC80SISO	Ant1	5210	136.160	5144.560	5280.720	---	---
		5290	102.240	5249.680	5351.920	---	---
		5530	94.400	5489.040	5583.440	---	---
		5610	93.600	5570.160	5663.760	---	---
		5690	93.760	5650.000	5743.760	---	---
		5690_UNII-2C	75	5650.000	5725	---	---
		5690_UNII-3	18.76	5725	5743.760	---	---
		5775	80.480	5735.000	5815.480	---	---

TEST GRAPHS

11A_Ant1_5180



11A_Ant1_5200



11A_Ant1_5240



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Test Report No.: W7L-P23070005RF03



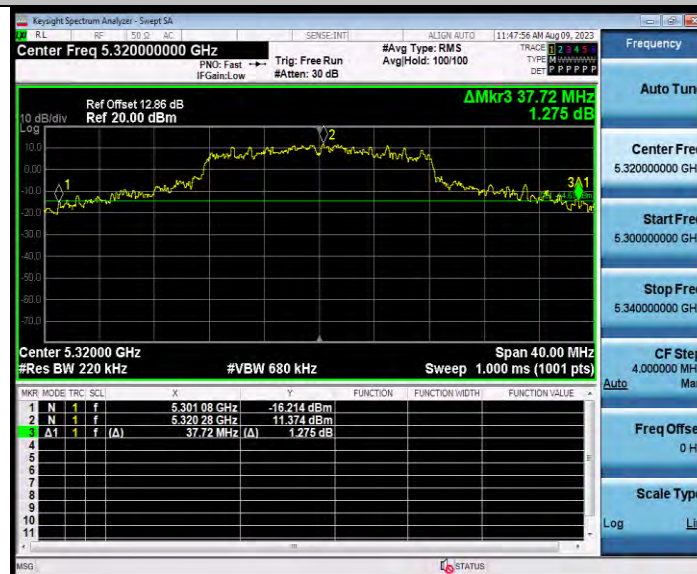


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11A_Ant1_5320



11A_Ant1_5500



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Test Report No.: W7L-P23070005RF03



11A_Ant1_5580



11A_Ant1_5700

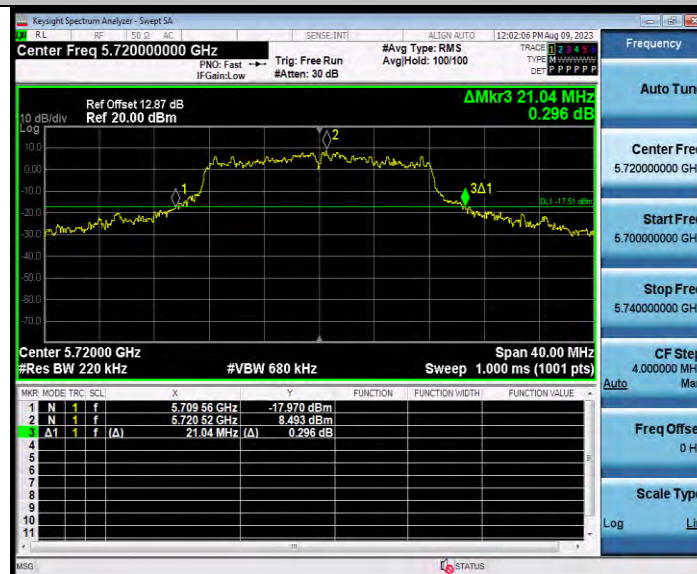


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Test Report No.: W7L-P23070005RF03



11A_Ant1_5720

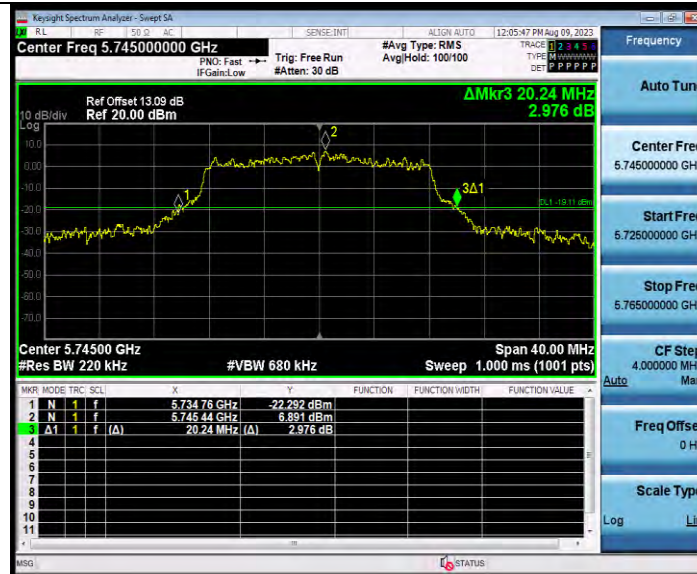


11A_Ant1_5745



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Test Report No.: W7L-P23070005RF03



11A_Ant1_5785



11A_Ant1_5825



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Test Report No.: W7L-P23070005RF03



11N20SISO_Ant1_5180



11N20SISO_Ant1_5200



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11N20SISO_Ant1_5240



11N20SISO_Ant1_5260



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Test Report No.: W7L-P23070005RF03



11N20SISO_Ant1_5300

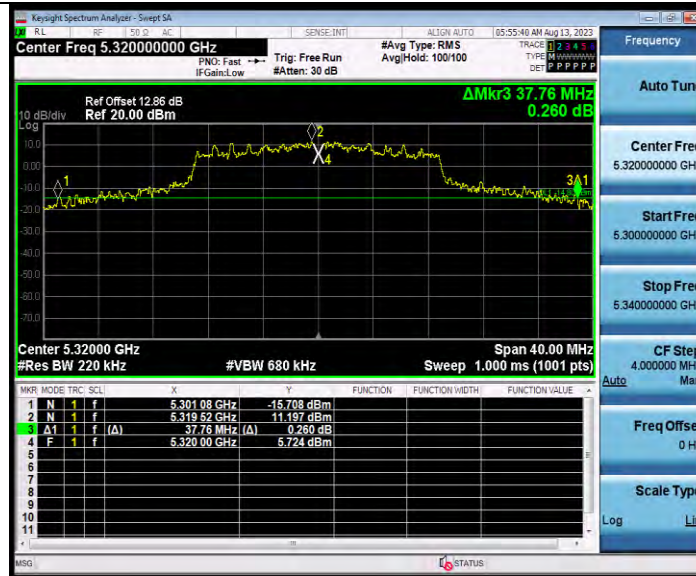


11N20SISO_Ant1_5320



BUREAU
VERITAS

Test Report No.: W7L-P23070005RF03



11N20SISO_Ant1_5500



11N20SISO_Ant1_5580

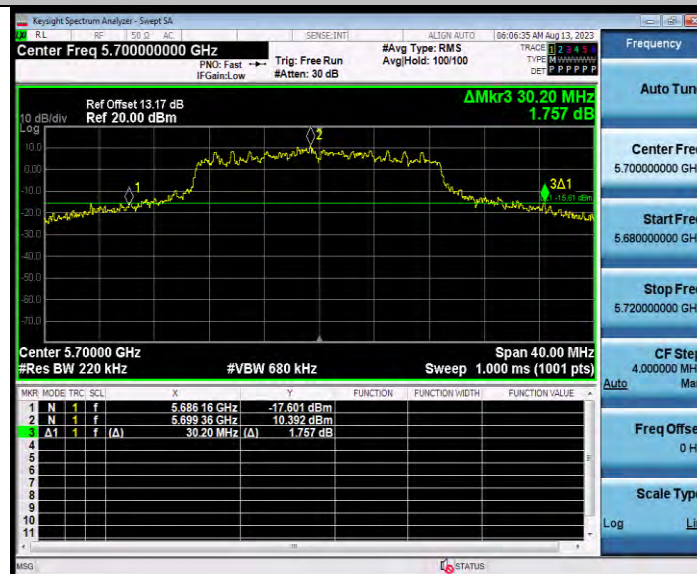


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VERITAS

Test Report No.: W7L-P23070005RF03



11N20SISO_Ant1_5700



11N20SISO_Ant1_5720



BUREAU
VERITAS

Test Report No.: W7L-P23070005RF03



11N20SISO_Ant1_5745



11N20SISO_Ant1_5785

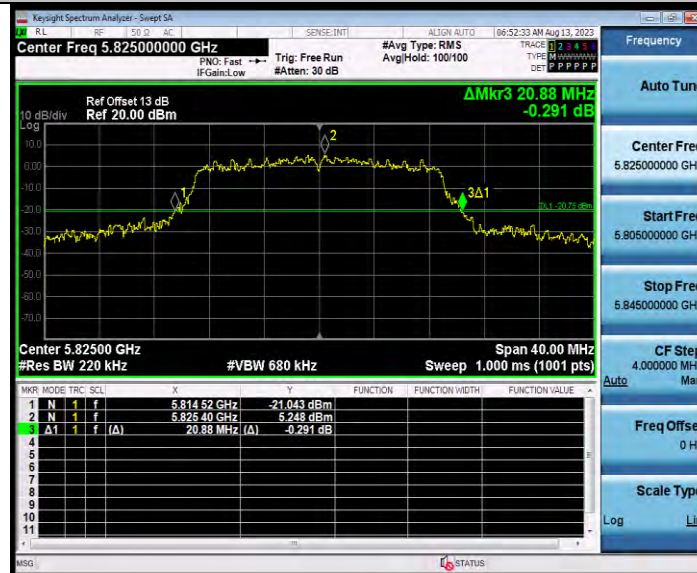


BUREAU
VERITAS

Test Report No.: W7L-P23070005RF03



11N20SISO_Ant1_5825

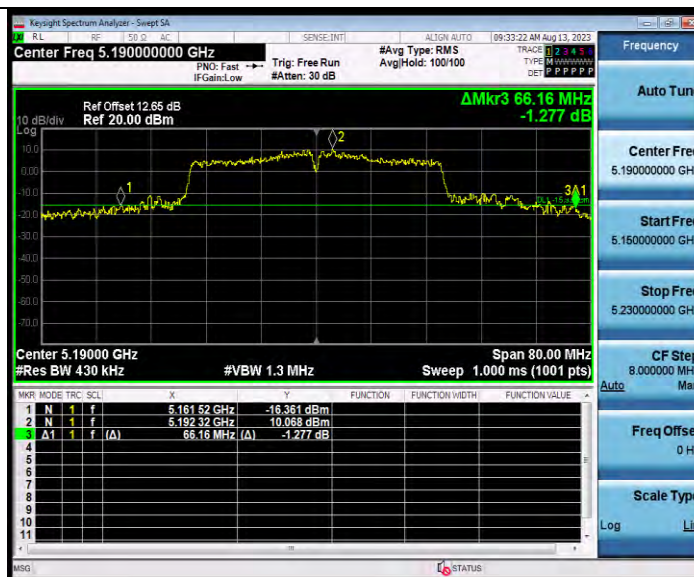


11N40SISO_Ant1_5190



BUREAU
VERITAS

Test Report No.: W7L-P23070005RF03



11N40SISO_Ant1_5230



11N40SISO_Ant1_5270



BUREAU
VERITAS

Test Report No.: W7L-P23070005RF03



11N40SISO_Ant1_5310



11N40SISO_Ant1_5510



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VERITAS

Test Report No.: W7L-P23070005RF03



11N40SISO_Ant1_5550



11N40SISO_Ant1_5670



BUREAU
VERITAS

Test Report No.: W7L-P23070005RF03



11N40SISO_Ant1_5710



11N40SISO_Ant1_5755



BUREAU
VERITAS

Test Report No.: W7L-P23070005RF03



11N40SISO_Ant1_5795

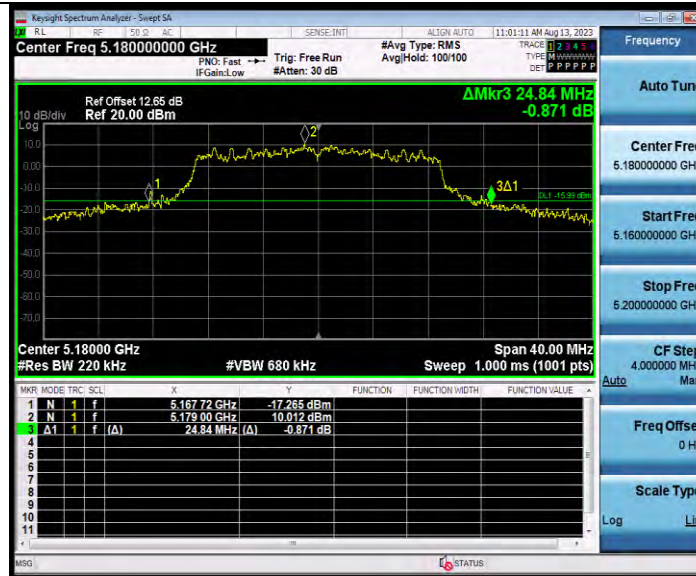


11AC20SISO_Ant1_5180



BUREAU
VERITAS

Test Report No.: W7L-P23070005RF03



11AC20SISO_Ant1_5200



11AC20SISO_Ant1_5240



BUREAU
VERITAS

Test Report No.: W7L-P23070005RF03



11AC20SISO_Ant1_5260



11AC20SISO_Ant1_5300



BUREAU
VERITAS

Test Report No.: W7L-P23070005RF03



11AC20SISO_Ant1_5320



11AC20SISO_Ant1_5500



BUREAU
VERITAS

Test Report No.: W7L-P23070005RF03



11AC20SISO_Ant1_5580

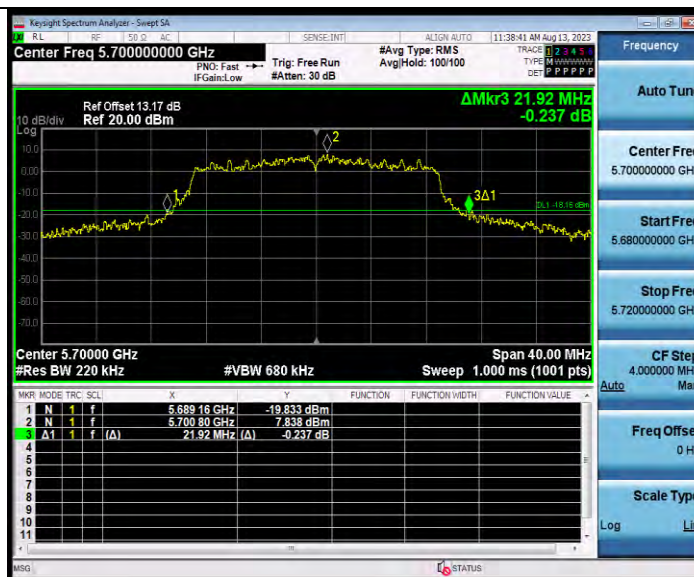


11AC20SISO_Ant1_5700



BUREAU
VERITAS

Test Report No.: W7L-P23070005RF03



11AC20SISO_Ant1_5720



11AC20SISO_Ant1_5745



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Test Report No.: W7L-P23070005RF03



11AC20ISO_Ant1_5785



11AC20ISO_Ant1_5825

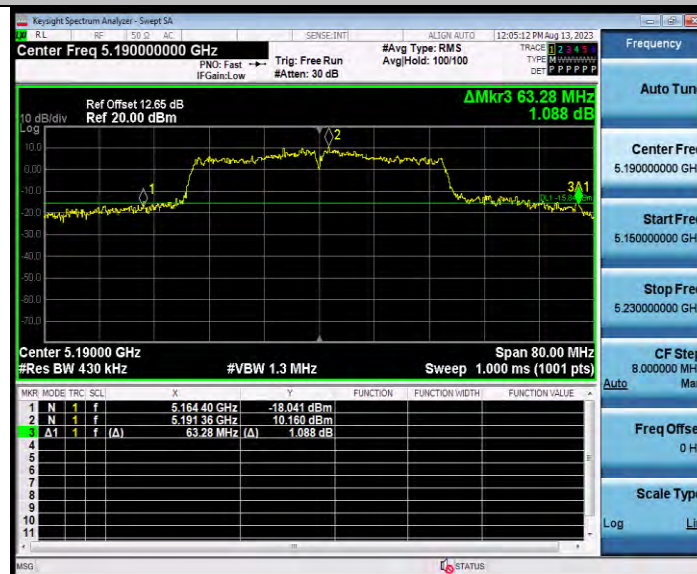


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11AC40SISO_Ant1_5190



11AC40SISO_Ant1_5230