



Test Report No.: W7L-P23010024RF03



FCC TEST REPORT

(Part 15, Subpart E)

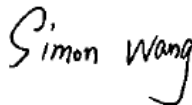

Applicant:	PAX Technology Limited
Address:	Room 2416, 24/F., Sun Hung Kai Centre, 30 Harbour, Hong Kong China

Manufacturer or Supplier:	PAX Computer Technology (Shenzhen) Co., Ltd.
Address:	401 and 402, Building 3, Shenzhen Software Park, Nanshan District, Shenzhen City, Guangdong Province, P.R.C
Product:	Smart Mobile Payment Terminal
Brand Name:	PAX
Model Name:	A930RTX
FCC ID:	V5PA930RTX
Date of tests:	Jan. 16, 2023 ~ Feb. 15, 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: Feb. 15, 2023	Date: Feb. 15, 2023

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TABLE OF CONTENTS

RELEASE CONTROL RECORD 4

1 SUMMARY OF TEST RESULTS 5

1.1 MEASUREMENT UNCERTAINTY 6

2 GENERAL INFORMATION..... 7

2.1 GENERAL DESCRIPTION OF EUT 7

2.2 DESCRIPTION OF TEST MODES 9

 2.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL..... 12

2.3 DUTY CYCLE OF TEST SIGNAL 17

2.4 DESCRIPTION OF SUPPORT UNITS 17

 2.4.1 CONFIGURATION OF SYSTEM UNDER TEST 18

2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS 18

3 TEST TYPES AND RESULTS..... 19

3.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT 19

 3.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT..... 19

 3.1.2 LIMITS OF UNWANTED EMISSION..... 19

 3.1.3 TEST INSTRUMENTS..... 20

 3.1.4 TEST PROCEDURES 21

 3.1.5 DEVIATION FROM TEST STANDARD 21

 3.1.6 TEST SETUP 22

 3.1.7 EUT OPERATING CONDITION 23

 3.1.8 TEST RESULTS 24

3.2 CONDUCTED EMISSION MEASUREMENT 113

 3.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT 113

 3.2.2 TEST INSTRUMENTS..... 113

 3.2.3 TEST PROCEDURES 113

 3.2.4 DEVIATION FROM TEST STANDARD 114

 3.2.5 TEST SETUP 114

 3.2.6 EUT OPERATING CONDITIONS 114

 3.2.7 TEST RESULTS 115

3.3 MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT 117

 3.3.1 LIMITS OF MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT 117

 3.3.2 TEST SETUP 118

 3.3.3 TEST INSTRUMENTS..... 118



3.3.4	TEST PROCEDURE	119
3.3.5	DEVIATION FROM TEST STANDARD	121
3.3.6	EUT OPERATING CONDITIONS	121
3.3.7	TEST RESULTS	122
3.4	MAXIMUM POWER SPECTRAL DENSITY MEASUREMENT	123
3.4.1	LIMITS OF MAXIMUM POWER SPECTRAL DENSITY MEASUREMENT	123
3.4.2	TEST SETUP	123
3.4.3	TEST INSTRUMENTS	123
3.4.4	TEST PROCEDURES	124
3.4.5	DEVIATION FROM TEST STANDARD	124
3.4.6	EUT OPERATING CONDITIONS	124
3.4.7	TEST RESULTS	125
3.5	AUTOMATICALLY DISCONTINUE TRANSMISSION	126
3.5.1	LIMIT OF AUTOMATICALLY DISCONTINUE TRANSMISSION	126
3.5.2	TEST INSTRUMENTS	126
3.5.3	TEST RESULT	126
4	PHOTOGRAPHS OF THE TEST CONFIGURATION	127
5	MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	128
6	APPENDIX A	129



BUREAU
VERITAS

Test Report No.: W7L-P23010024RF03

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-P23010024RF03	Original release	Feb. 15, 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
15.407(b)(6)	AC Power Conducted Emission	Compliance
15.407(b) (1/2/3/4/5)	Radiated Emission & Band Edge Measurement	Compliance
15.407(a/1/2/3)	Maximum conducted output Power	Compliance
15.407(a/1/2/3)	Peak Power Spectral Density	Compliance
15.407(i)	26 dB Bandwidth	Compliance
15.407(e)	6 dB Bandwidth	Compliance
15.203	Antenna Requirement	Compliance

NOTE:

1. Except the data of Radiated Emission & Band Edge Measurement, other data of 802.11a & 802.11n/ac (20/40) & 802.11ac 80 please refer to the appendix.
2. Only the worse data were reported.



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	Smart Mobile Payment Terminal
BRAND NAME	PAX
MODEL NAME	A930RTX
NOMINAL VOLTAGE	5.0Vdc(adapter or host equipment) 7.2Vdc (Li-ion, battery)
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/ac (20MHz) 2 for 802.11n/ac (40MHz) 1 for 802. 802.11ac(80MHz) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n/ac (20MHz) 2 for 802.11n/ac (40MHz) 1 for 802.11ac (80MHz) 5500 ~ 5720MHz: 12 for 802.11a, 802.11n/ac (20MHz)/ 6 for 802.11n/ac (40MHz) 3 for 802.11ac (80MHz) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n/ac (20MHz) 2 for 802.11n/ac (40MHz) 1 for 802.11ac (80MHz)
AVERAGE POWER	22.03mW for 5180 ~ 5240MHz 21.93mW for 5260 ~ 5320MHz 32.51mW for 5500 ~ 5720MHz 17.02mW for 5745 ~ 5825MHz
ANTENNA TYPE	PIFA Antenna
ANTENNA GAIN	2.17dBi for 5180 ~ 5240MHz 2.35dBi for 5260 ~ 5320MHz 2.4dBi for 5500 ~ 5720MHz 2.05dBi for 5745 ~ 5825MHz
HW VERSION	A930RTX
SW VERSION	N/A



I/O PORTS	Refer to user's manual
CABLE SUPPLIED	USB cable: non-shielded cable, with w/o ferrite core, 1.0 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 was shown in test report.

List of Accessory:

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
Battery	VEKEN	N/A	YW-003C	Capacity: 7.2Vdc, 3350mAh
AC Adapter	PAX	Shenzhen Sorghum red Electronics Technology Co.,Ltd	GLH50E2000HW	I/P: 100-240Vac, 0.4A, O/P: 5.0Vdc, 2A
USB Cable	N/A	N/A	N/A	Signal Line,1.0meter



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	138	5690 MHz
122	5610 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
151	5755 MHz	159	5795 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≥1G	RE<1G	PLC	APCM	
A	√	√	√	-	Powered by Adapter with wifi(5G) link
B	-	-	-	√	Powered by Battery with wifi(5G) link
C	-	-	-	-	Powered by USB with wifi(5G) link

Where **RE≥1G**: Radiated Emission above 1GHz **RE<1G**: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM**: Antenna Port Conducted Measurement

NOTE:
The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.
NOTE: "-" means no effect.

RADIATED EMISSION TEST (BELOW 1GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- 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 (20MHz)	5745-5825	149 to 165	157	OFDM	MCS0



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).
- Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
A	802.11an/ac (20MHz)		36 to 48	36, 40, 48	OFDM	MCS0
A	802.11an/ac (40MHz)		38 to 46	38, 46	OFDM	MCS0
A	802.11ac (80MHz)		42	42	OFDM	MCS0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
A	802.11an/ac (20MHz)		52 to 64	52, 60, 64	OFDM	MCS0
A	802.11an/ac (40MHz)		54 to 62	54, 62	OFDM	MCS0
A	802.11ac (80MHz)		58	58	OFDM	MCS0
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
A	802.11an/ac (20MHz)		100 to 144	100, 116, 140, 144	OFDM	MCS0
A	802.11an/ac (40MHz)		102 to 142	102, 110, 134, 142	OFDM	MCS0
A	802.11ac (80MHz)		106 to 138	106, 138	OFDM	MCS0
A	802.11a	5745-5825	144 to 165	144,149, 157,165	OFDM	6.0
A	802.11an/ac (20MHz)		144 to 165	144,149, 157,165	OFDM	MCS0
A	802.11an/ac (40MHz)		142 to 159	142,151, 159	OFDM	MCS0
A	802.11ac (80MHz)		138 to 155	138,155	OFDM	MCS0

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 (20MHz)	5745-5825	149 to 165	165	OFDM	MCS0



BANDEDGE MEASUREMENT:

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
A	802.11an/ac (20MHz)		36 to 48	36, 40, 48	OFDM	MCS0
A	802.11an/ac (40MHz)		38 to 46	38, 46	OFDM	MCS0
A	802.11ac (80MHz)		42	42	OFDM	MCS0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
A	802.11an/ac (20MHz)		52 to 64	52, 60, 64	OFDM	MCS0
A	802.11an/ac (40MHz)		54 to 62	54, 62	OFDM	MCS0
A	802.11ac (80MHz)		58	58	OFDM	MCS0
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
A	802.11an/ac (20MHz)		100 to 144	100, 116, 140, 144	OFDM	MCS0
A	802.11an/ac (40MHz)		102 to 142	102, 110, 134, 142	OFDM	MCS0
A	802.11ac(80MHz)		106 to 138	106, 138	OFDM	MCS0
A	802.11a	5745-5825	144 to 165	144,149, 157,165	OFDM	6.0
A	802.11an/ac (20MHz)		144 to 165	144,149, 157,165	OFDM	MCS0
A	802.11an/ac (40MHz)		142 to 159	142,151, 159	OFDM	MCS0
A	802.11ac (80MHz)		138 to 155	138,155	OFDM	MCS0



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	MODULATION	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
A	802.11an/ac (20MHz)		36 to 48	36, 40, 48	OFDM	MCS0
A	802.11an/ac (40MHz)		38 to 46	38, 46	OFDM	MCS0
A	802.11ac (80MHz)		42	42	OFDM	MCS0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
A	802.11an/ac (20MHz)		52 to 64	52, 60, 64	OFDM	MCS0
A	802.11an/ac (40MHz)		54 to 62	54, 62	OFDM	MCS0
A	802.11ac (80MHz)		58	58	OFDM	MCS0
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
A	802.11an/ac (20MHz)		100 to 144	100, 116, 140, 144	OFDM	MCS0
A	802.11an/ac (40MHz)		102 to 142	102, 110, 134, 142	OFDM	MCS0
A	802.11ac (80MHz)		106 to 138	106, 138	OFDM	MCS0
A	802.11a	5745-5825	144 to 165	144,149, 157,165	OFDM	6.0
A	802.11an/ac (20MHz)		144 to 165	144,149, 157,165	OFDM	MCS0
A	802.11an/ac (40MHz)		142 to 159	142,151, 159	OFDM	MCS0
A	802.11ac (80MHz)		138 to 155	138,155	OFDM	MCS0



TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE<1G	23deg. C, 56%RH	DC 5V By Adapter	Jace Hu
RE≥1G	23deg. C, 56%RH	DC 5V By Adapter	Jace Hu
PLC	25deg. C, 52%RH	DC 5V By Adapter	James Fu
APCM	25deg. C, 60%RH	DC 7.2V By Battery	James Fu



2.3 DUTY CYCLE OF TEST SIGNAL

Please Refer to Appendix A Of this test report.

WORST-CASE DATA:

Measured Duty Cycle		
Mode		Duty Cycle [%]
		ANT1
5GHZ	11a	96.55
	11n20	96.32
	11n40	92.86
	11ac20	96.35
	11ac40	92.96
	11ac80	86.84

Note:

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

2.4 DESCRIPTION OF SUPPORT UNITS

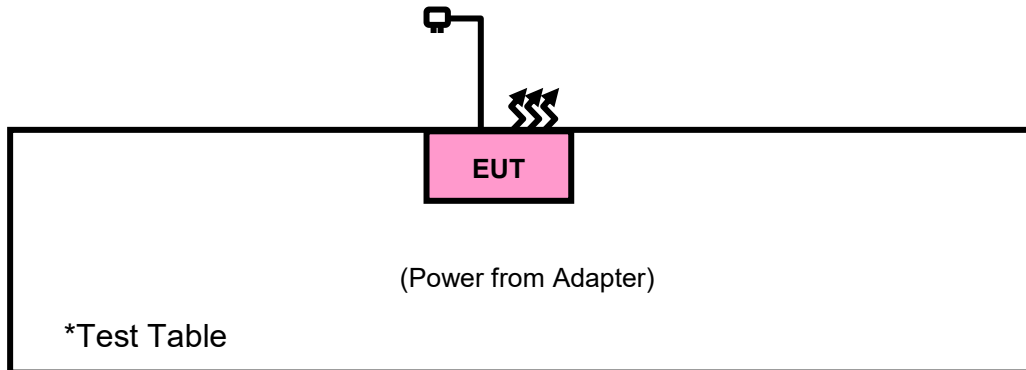
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

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	Thinkpad L440	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 a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart E (15.407)

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

ANSI C63.10-2013

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. 19,20	May. 18,23
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Mar. 06,22	Mar. 05,23
Horn Antenna	ETS-LINDGREN	3117	00168692	Mar. 06,22	Mar. 05,23
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Aug. 24, 22	Aug. 23, 23
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	1505	Jun. 02,22	Jun. 01,23
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Feb. 21,22	Feb. 20,23
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May.12,22	May.11,23
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.12,22	May.11,23
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 21,22	Feb.20,23
DC Source	Kikusui/JP	PMX18-5A	0000001	Aug. 24,22	Aug. 23,23
Power Meter	Anritsu	ML2495A	1506002	Feb. 22,22	Feb. 21,23
Power Sensor	Anritsu	MA2411B	1339352	May. 06,22	May. 05,23
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep. 04,22	Sep. 03,23

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 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 is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

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

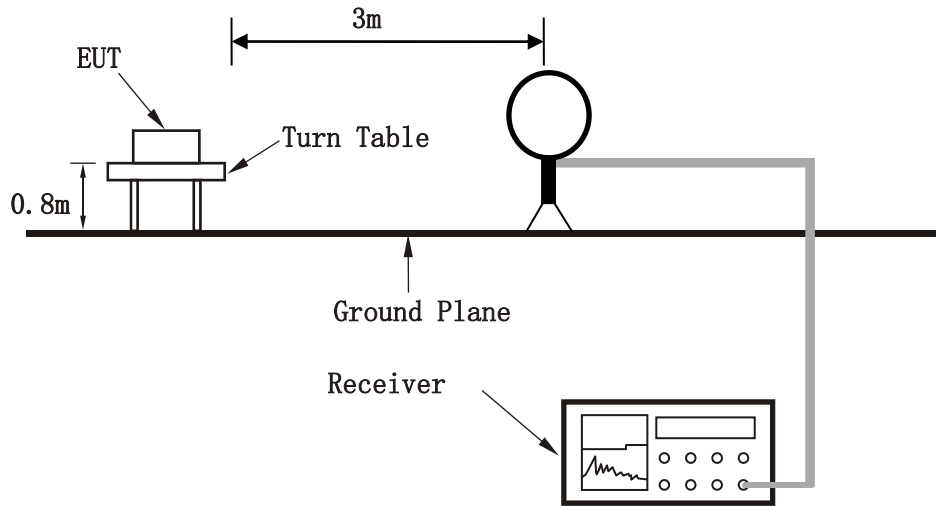
3.1.5 DEVIATION FROM TEST STANDARD

No deviation.

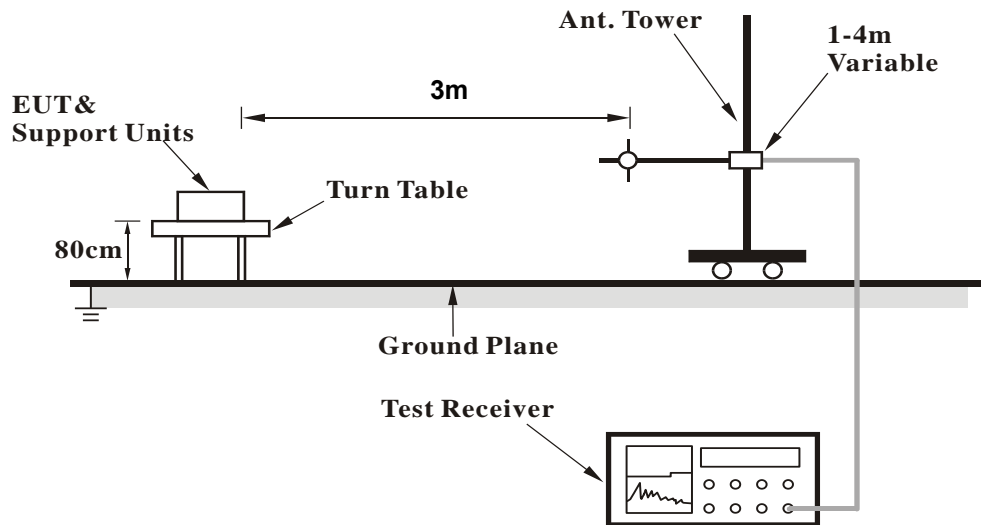


3.1.6 TEST SETUP

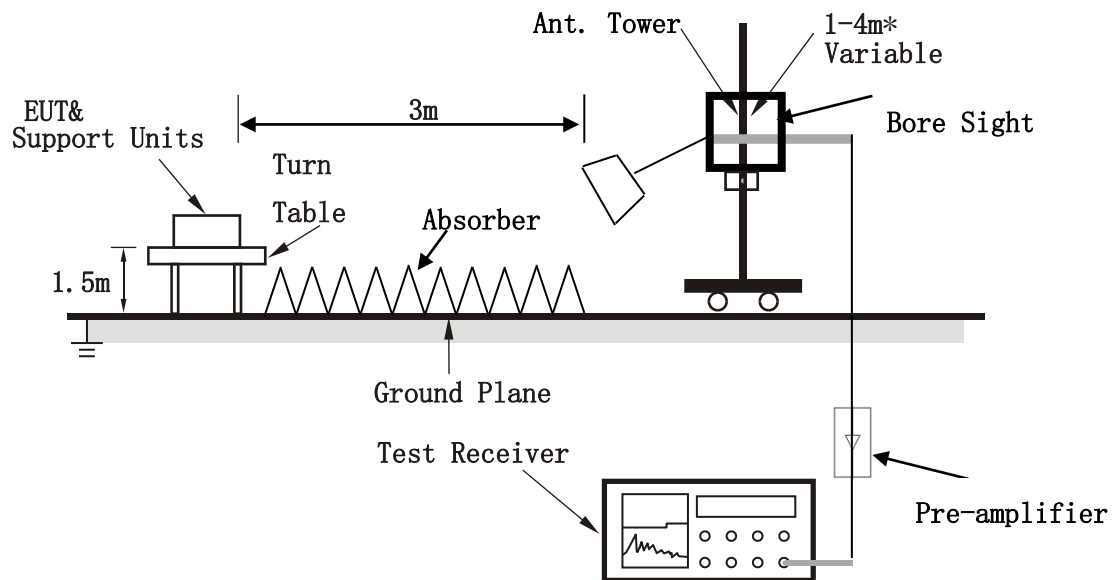
<Frequency Range 9KHz~30MHz >



< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna

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

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

3.1.7 EUT OPERATING CONDITION

- a. Set the EUT under full load condition and placed them on a testing table.
- b. Set the transmitter part of EUT under transmission condition continuously at specific channel frequency.
- c. 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 4

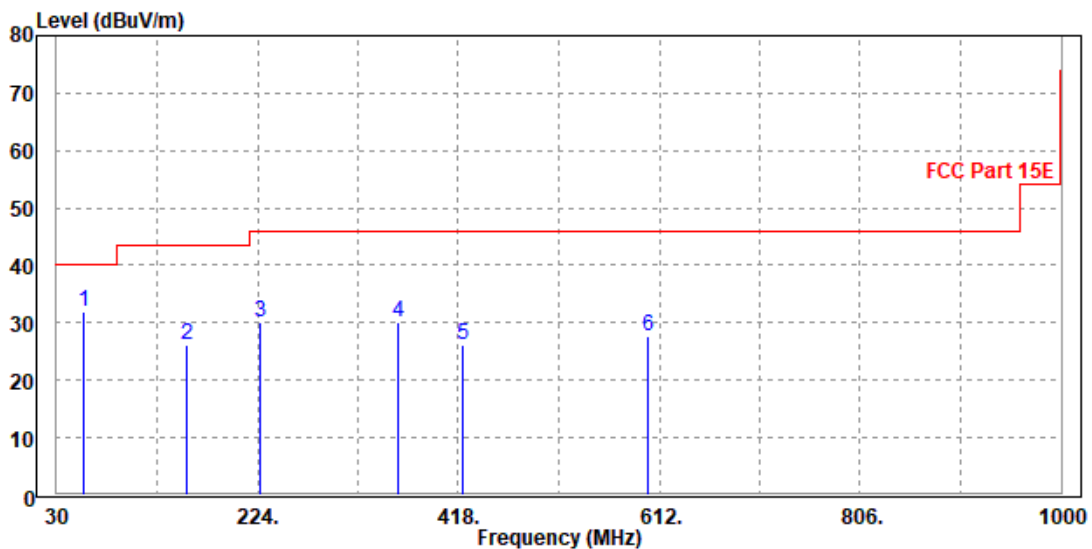
802.11n (20MHz)

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
56.19	31.85	58.8	40	-8.15	9.58	0.43	36.96	114	160	QP
155.13	26.23	51.77	43.5	-17.27	10.32	0.67	36.53	122	273	QP
226.91	30.2	53.21	46	-15.8	12.48	0.79	36.28	195	130	QP
359.8	30.17	50.2	46	-15.83	15.32	1.01	36.36	187	14	QP
422.85	26.25	44.98	46	-19.75	16.63	1.11	36.47	114	277	QP
600.36	27.66	43.44	46	-18.34	19.71	1.36	36.85	104	343	QP

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.
4. Margin value = Emission level – Limit value.



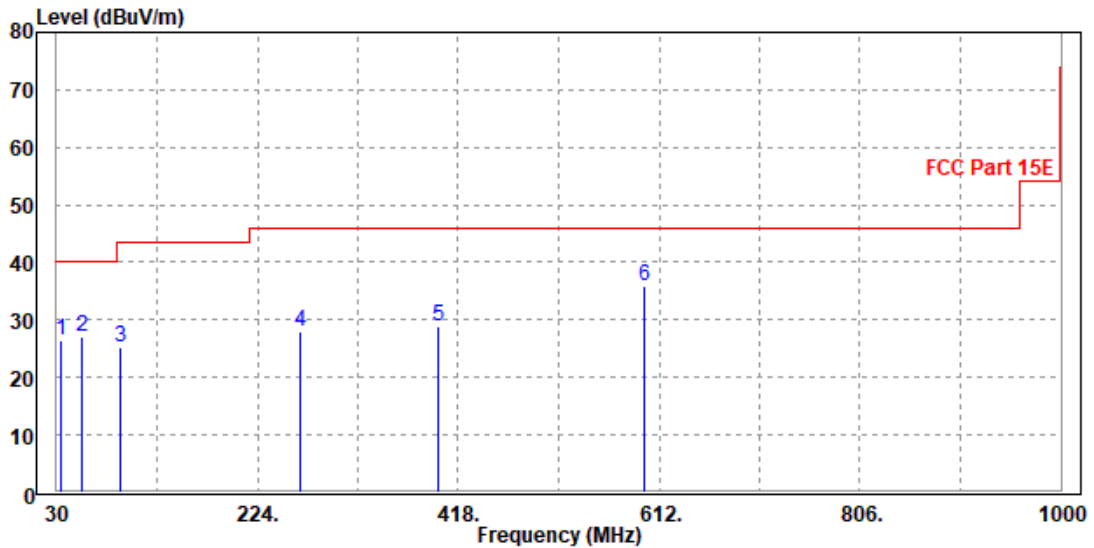


CHANNEL	Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
34.85	26.4	45.54	40	-13.6	17.88	0.33	37.35	154	293	QP
54.25	27.1	54.42	40	-12.9	9.23	0.42	36.97	107	94	QP
92.08	25.17	52.85	43.5	-18.33	8.7	0.52	36.9	154	224	QP
265.71	28.13	50.5	46	-17.87	13.04	0.86	36.27	122	83	QP
398.6	28.93	48.01	46	-17.07	16.27	1.07	36.42	117	269	QP
597.45	35.98	51.91	46	-10.02	19.55	1.36	36.84	128	285	QP

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.
4. Margin value = Emission level – Limit value.





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										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	56.80	57.87	74.00	-17.20	34.52	9.92	45.51	150	190	Peak
5150	50.64	51.71	54.00	-3.36	34.52	9.92	45.51	150	190	Average
5180	104.93	105.99	/	/	34.54	9.91	45.51	131	120	Peak
5180	97.43	98.49	/	/	34.54	9.91	45.51	131	120	Average
5350	53.72	54.70	74.00	-20.28	34.68	9.85	45.51	154	39	Peak
5350	47.71	48.69	54.00	-6.29	34.68	9.85	45.51	154	39	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	58.23	59.22	74.00	-15.77	34.60	9.92	45.51	116	303	Peak
5150	50.91	51.90	54.00	-3.09	34.60	9.92	45.51	116	303	Average
5180	105.81	106.81	/	/	34.60	9.91	45.51	134	255	Peak
5180	98.17	99.17	/	/	34.60	9.91	45.51	134	255	Average
5350	55.49	56.55	74.00	-18.51	34.60	9.85	45.51	120	295	Peak
5350	47.95	49.01	54.00	-6.05	34.60	9.85	45.51	120	295	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 5180MHz: Fundamental frequency.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	54.52	55.59	74.00	-19.48	34.52	9.92	45.51	164	92	Peak
5150	49.26	50.33	54.00	-4.74	34.52	9.92	45.51	164	92	Average
5200	104.06	105.11	/	/	34.56	9.90	45.51	141	193	Peak
5200	96.98	98.03	/	/	34.56	9.90	45.51	141	193	Average
5350	53.81	54.79	74.00	-20.19	34.68	9.85	45.51	168	102	Peak
5350	47.49	48.47	54.00	-6.51	34.68	9.85	45.51	168	102	Average

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	56.81	57.80	74.00	-17.19	34.60	9.92	45.51	189	166	Peak
5150	49.53	50.52	54.00	-4.47	34.60	9.92	45.51	189	166	Average
5200	105.01	106.02	/	/	34.60	9.90	45.51	194	341	Peak
5200	98.13	99.14	/	/	34.60	9.90	45.51	194	341	Average
5350	54.26	55.32	74.00	-19.74	34.60	9.85	45.51	188	119	Peak
5350	47.38	48.44	54.00	-6.62	34.60	9.85	45.51	188	119	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 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

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	55.53	56.60	74.00	-18.47	34.52	9.92	45.51	110	300	Peak
5150	49.40	50.47	54.00	-4.60	34.52	9.92	45.51	110	300	Average
5240	104.50	105.53	/	/	34.59	9.89	45.51	198	255	Peak
5240	97.11	98.14	/	/	34.59	9.89	45.51	198	255	Average
5350	54.43	55.41	74.00	-19.57	34.68	9.85	45.51	118	224	Peak
5350	48.08	49.06	54.00	-5.92	34.68	9.85	45.51	118	224	Average

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	55.58	56.57	74.00	-18.42	34.60	9.92	45.51	132	73	Peak
5150	49.60	50.59	54.00	-4.40	34.60	9.92	45.51	132	73	Average
5240	104.78	105.80	/	/	34.60	9.89	45.51	167	347	Peak
5240	98.16	99.18	/	/	34.60	9.89	45.51	167	347	Average
5350	54.37	55.43	74.00	-19.63	34.60	9.85	45.51	125	207	Peak
5350	47.86	48.92	54.00	-6.14	34.60	9.85	45.51	125	207	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 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

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	57.94	59.01	74.00	-16.06	34.52	9.92	45.51	135	37	Peak
5150	50.58	51.65	54.00	-3.42	34.52	9.92	45.51	135	37	Average
5180	104.53	105.59	/	/	34.54	9.91	45.51	139	319	Peak
5180	98.16	99.22	/	/	34.54	9.91	45.51	139	319	Average
5350	54.75	55.73	74.00	-19.25	34.68	9.85	45.51	130	136	Peak
5350	47.67	48.65	54.00	-6.33	34.68	9.85	45.51	130	136	Average

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	57.32	58.31	74.00	-16.68	34.60	9.92	45.51	133	238	Peak
5150	50.90	51.89	54.00	-3.10	34.60	9.92	45.51	133	238	Average
5180	105.57	106.57	/	/	34.60	9.91	45.51	141	62	Peak
5180	98.32	99.32	/	/	34.60	9.91	45.51	141	62	Average
5350	53.92	54.98	74.00	-20.08	34.60	9.85	45.51	128	92	Peak
5350	48.07	49.13	54.00	-5.93	34.60	9.85	45.51	128	92	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 5180MHz: Fundamental frequency.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	55.13	56.20	74.00	-18.87	34.52	9.92	45.51	158	294	Peak
5150	49.60	50.67	54.00	-4.40	34.52	9.92	45.51	158	294	Average
5200	103.97	105.02	/	/	34.56	9.90	45.51	170	235	Peak
5200	97.38	98.43	/	/	34.56	9.90	45.51	170	235	Average
5350	53.77	54.75	74.00	-20.23	34.68	9.85	45.51	151	141	Peak
5350	48.03	49.01	54.00	-5.97	34.68	9.85	45.51	151	141	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	57.56	58.55	74.00	-16.44	34.60	9.92	45.51	118	20	Peak
5150	49.56	50.55	54.00	-4.44	34.60	9.92	45.51	118	20	Average
5200	104.55	105.56	/	/	34.60	9.90	45.51	126	251	Peak
5200	98.15	99.16	/	/	34.60	9.90	45.51	126	251	Average
5350	55.11	56.17	74.00	-18.89	34.60	9.85	45.51	124	211	Peak
5350	47.44	48.50	54.00	-6.56	34.60	9.85	45.51	124	211	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 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

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	53.29	54.36	74.00	-20.71	34.52	9.92	45.51	132	35	Peak
5150	49.51	50.58	54.00	-4.49	34.52	9.92	45.51	132	35	Average
5240	104.07	105.10	/	/	34.59	9.89	45.51	174	306	Peak
5240	97.20	98.23	/	/	34.59	9.89	45.51	174	306	Average
5350	54.70	55.68	74.00	-19.30	34.68	9.85	45.51	130	57	Peak
5350	47.62	48.60	54.00	-6.38	34.68	9.85	45.51	130	57	Average

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	56.84	57.83	74.00	-17.16	34.60	9.92	45.51	151	13	Peak
5150	49.66	50.65	54.00	-4.34	34.60	9.92	45.51	151	13	Average
5240	104.65	105.67	/	/	34.60	9.89	45.51	191	29	Peak
5240	97.92	98.94	/	/	34.60	9.89	45.51	191	29	Average
5350	53.38	54.44	74.00	-20.62	34.60	9.85	45.51	137	81	Peak
5350	48.12	49.18	54.00	-5.88	34.60	9.85	45.51	137	81	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 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

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	58.24	59.31	74.00	-15.76	34.52	9.92	45.51	116	156	Peak
5150	50.88	51.95	54.00	-3.12	34.52	9.92	45.51	116	156	Average
5190	100.21	101.26	/	/	34.55	9.91	45.51	180	196	Peak
5190	92.52	93.57	/	/	34.55	9.91	45.51	180	196	Average
5350	53.30	54.28	74.00	-20.70	34.68	9.85	45.51	116	15	Peak
5350	47.75	48.73	54.00	-6.25	34.68	9.85	45.51	116	15	Average

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	56.35	57.34	74.00	-17.65	34.60	9.92	45.51	137	279	Peak
5150	50.33	51.32	54.00	-3.67	34.60	9.92	45.51	137	279	Average
5190	97.30	98.30	/	/	34.60	9.91	45.51	135	194	Peak
5190	92.18	93.18	/	/	34.60	9.91	45.51	135	194	Average
5350	53.10	54.16	74.00	-20.90	34.60	9.85	45.51	128	348	Peak
5350	47.10	48.16	54.00	-6.90	34.60	9.85	45.51	128	348	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 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

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	53.99	55.06	74.00	-20.01	34.52	9.92	45.51	109	270	Peak
5150	49.20	50.27	54.00	-4.80	34.52	9.92	45.51	109	270	Average
5230	101.38	102.42	/	/	34.58	9.89	45.51	111	57	Peak
5230	93.10	94.14	/	/	34.58	9.89	45.51	111	57	Average
5350	53.46	54.44	74.00	-20.54	34.68	9.85	45.51	110	158	Peak
5350	47.82	48.80	54.00	-6.18	34.68	9.85	45.51	110	158	Average

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	56.90	57.89	74.00	-17.10	34.60	9.92	45.51	172	82	Peak
5150	49.03	50.02	54.00	-4.97	34.60	9.92	45.51	172	82	Average
5230	100.31	101.33	/	/	34.60	9.89	45.51	140	261	Peak
5230	93.38	94.40	/	/	34.60	9.89	45.51	140	261	Average
5350	53.34	54.40	74.00	-20.66	34.60	9.85	45.51	173	343	Peak
5350	47.40	48.46	54.00	-6.60	34.60	9.85	45.51	173	343	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 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										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	58.86	59.93	74.00	-15.14	34.52	9.92	45.51	157	137	Peak
5150	50.80	51.87	54.00	-3.20	34.52	9.92	45.51	157	137	Average
5180	104.59	105.65	/	/	34.54	9.91	45.51	186	250	Peak
5180	96.65	97.71	/	/	34.54	9.91	45.51	186	250	Average
5350	52.79	53.77	74.00	-21.21	34.68	9.85	45.51	145	106	Peak
5350	47.76	48.74	54.00	-6.24	34.68	9.85	45.51	145	106	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	57.94	58.93	74.00	-16.06	34.60	9.92	45.51	110	95	Peak
5150	50.64	51.63	54.00	-3.36	34.60	9.92	45.51	110	95	Average
5180	103.84	104.84	/	/	34.60	9.91	45.51	152	163	Peak
5180	97.08	98.08	/	/	34.60	9.91	45.51	152	163	Average
5350	53.92	54.98	74.00	-20.08	34.60	9.85	45.51	117	222	Peak
5350	48.12	49.18	54.00	-5.88	34.60	9.85	45.51	117	222	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 5180MHz: Fundamental frequency.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	53.08	54.15	74.00	-20.92	34.52	9.92	45.51	154	229	Peak
5150	49.19	50.26	54.00	-4.81	34.52	9.92	45.51	154	229	Average
5200	104.15	105.20	/	/	34.56	9.90	45.51	164	80	Peak
5200	96.31	97.36	/	/	34.56	9.90	45.51	164	80	Average
5350	52.44	53.42	74.00	-21.56	34.68	9.85	45.51	152	203	Peak
5350	48.53	49.51	54.00	-5.47	34.68	9.85	45.51	152	203	Average

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	53.37	54.36	74.00	-20.63	34.60	9.92	45.51	145	140	Peak
5150	49.88	50.87	54.00	-4.12	34.60	9.92	45.51	145	140	Average
5200	103.86	104.87	/	/	34.60	9.90	45.51	129	7	Peak
5200	96.20	97.21	/	/	34.60	9.90	45.51	129	7	Average
5350	53.57	54.63	74.00	-20.43	34.60	9.85	45.51	153	331	Peak
5350	47.87	48.93	54.00	-6.13	34.60	9.85	45.51	153	331	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 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

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	54.36	55.43	74.00	-19.64	34.52	9.92	45.51	166	309	Peak
5150	49.07	50.14	54.00	-4.93	34.52	9.92	45.51	166	309	Average
5240	104.38	105.41	/	/	34.59	9.89	45.51	178	4	Peak
5240	96.11	97.14	/	/	34.59	9.89	45.51	178	4	Average
5350	52.81	53.79	74.00	-21.19	34.68	9.85	45.51	175	289	Peak
5350	47.81	48.79	54.00	-6.19	34.68	9.85	45.51	175	289	Average

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	54.05	55.04	74.00	-19.95	34.60	9.92	45.51	180	341	Peak
5150	49.08	50.07	54.00	-4.92	34.60	9.92	45.51	180	341	Average
5240	103.71	104.73	/	/	34.60	9.89	45.51	143	211	Peak
5240	96.83	97.85	/	/	34.60	9.89	45.51	143	211	Average
5350	53.59	54.65	74.00	-20.41	34.60	9.85	45.51	166	307	Peak
5350	47.21	48.27	54.00	-6.79	34.60	9.85	45.51	166	307	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 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

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	55.72	56.79	74.00	-18.28	34.52	9.92	45.51	189	347	Peak
5150	50.83	51.90	54.00	-3.17	34.52	9.92	45.51	189	347	Average
5190	100.17	101.22	/	/	34.55	9.91	45.51	190	280	Peak
5190	93.06	94.11	/	/	34.55	9.91	45.51	190	280	Average
5350	54.60	55.58	74.00	-19.40	34.68	9.85	45.51	192	113	Peak
5350	47.67	48.65	54.00	-6.33	34.68	9.85	45.51	192	113	Average

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	54.87	55.86	74.00	-19.13	34.60	9.92	45.51	158	70	Peak
5150	49.92	50.91	54.00	-4.08	34.60	9.92	45.51	158	70	Average
5190	97.33	98.33	/	/	34.60	9.91	45.51	105	360	Peak
5190	90.85	91.85	/	/	34.60	9.91	45.51	105	360	Average
5350	52.98	54.04	74.00	-21.02	34.60	9.85	45.51	156	51	Peak
5350	47.71	48.77	54.00	-6.29	34.60	9.85	45.51	156	51	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 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

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	54.31	55.38	74.00	-19.69	34.52	9.92	45.51	171	297	Peak
5150	49.66	50.73	54.00	-4.34	34.52	9.92	45.51	171	297	Average
5230	99.53	100.57	/	/	34.58	9.89	45.51	120	1	Peak
5230	92.41	93.45	/	/	34.58	9.89	45.51	120	1	Average
5350	52.93	53.91	74.00	-21.07	34.68	9.85	45.51	161	70	Peak
5350	47.73	48.71	54.00	-6.27	34.68	9.85	45.51	161	70	Average

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	53.96	54.95	74.00	-20.04	34.60	9.92	45.51	171	13	Peak
5150	49.70	50.69	54.00	-4.30	34.60	9.92	45.51	171	13	Average
5230	99.77	100.79	/	/	34.60	9.89	45.51	193	50	Peak
5230	92.31	93.33	/	/	34.60	9.89	45.51	193	50	Average
5350	53.42	54.48	74.00	-20.58	34.60	9.85	45.51	182	358	Peak
5350	47.62	48.68	54.00	-6.38	34.60	9.85	45.51	182	358	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 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										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	55.57	56.64	74.00	-18.43	34.52	9.92	45.51	184	9	Peak
5150	50.72	51.79	54.00	-3.28	34.52	9.92	45.51	184	9	Average
5210	95.17	96.21	/	/	34.57	9.90	45.51	142	313	Peak
5210	89.69	90.73	/	/	34.57	9.90	45.51	142	313	Average
5350	53.83	54.81	74.00	-20.17	34.68	9.85	45.51	194	95	Peak
5350	47.31	48.29	54.00	-6.69	34.68	9.85	45.51	194	95	Average
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	55.64	56.63	74.00	-18.36	34.60	9.92	45.51	165	290	Peak
5150	50.51	51.50	54.00	-3.49	34.60	9.92	45.51	165	290	Average
5210	94.33	95.34	/	/	34.60	9.90	45.51	153	217	Peak
5210	88.35	89.36	/	/	34.60	9.90	45.51	153	217	Average
5350	52.91	53.97	74.00	-21.09	34.60	9.85	45.51	167	283	Peak
5350	47.18	48.24	54.00	-6.82	34.60	9.85	45.51	167	283	Average

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 5210MHz: Fundamental frequency.



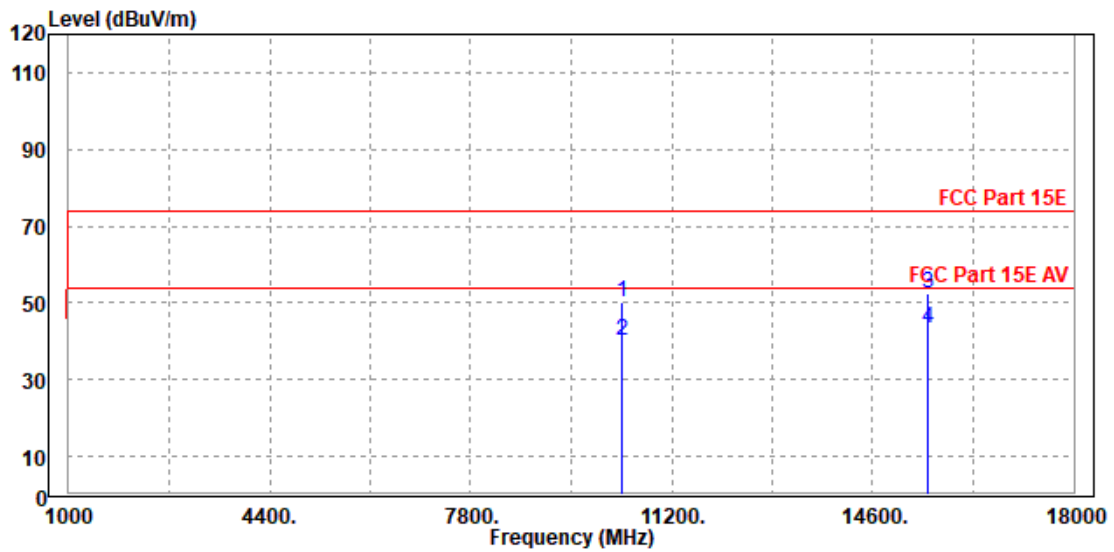
Worst case harmonic:

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

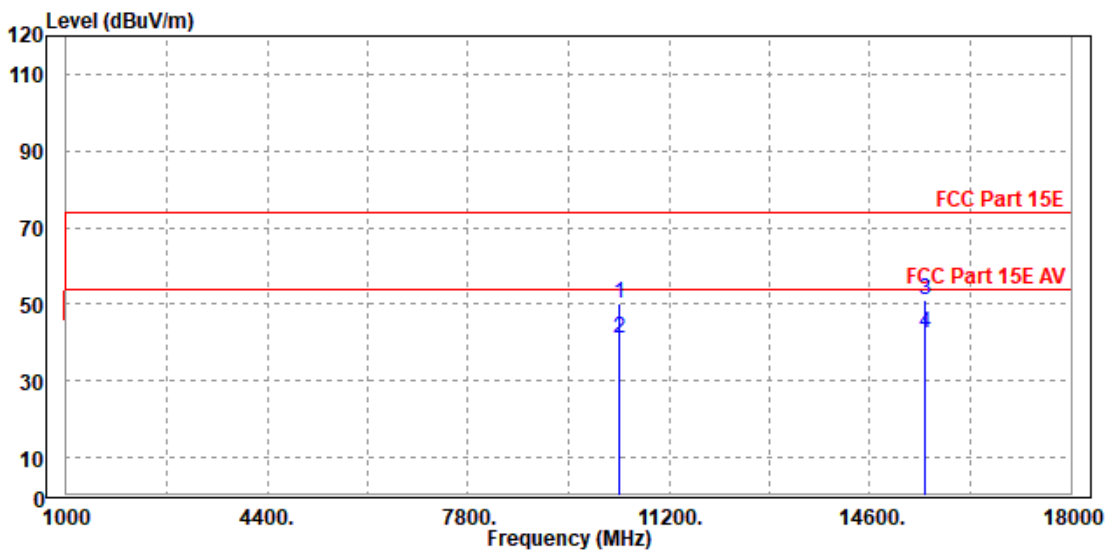
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1	10367.000	50.13	43.25	74.00	-23.87	6.88	Peak	Horizontal
2	10367.000	40.34	33.46	54.00	-13.66	6.88	Average	Horizontal
3	PK15540.000	52.49	39.75	74.00	-21.51	12.74	Peak	Horizontal
4	PP15540.000	43.57	30.83	54.00	-10.43	12.74	Average	Horizontal





ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1	10360.000	50.18	42.22	74.00	-23.82	7.96	Peak	Vertical
2	10360.000	41.13	33.17	54.00	-12.87	7.96	Average	Vertical
3	PK15535.000	51.07	39.29	74.00	-22.93	11.78	Peak	Vertical
4	PP15535.000	42.60	30.82	54.00	-11.40	11.78	Average	Vertical



REMARKS:

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