

FCC TEST REPORT

(Part 15, Subpart E)

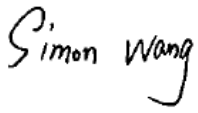
Applicant:	Telit Communications S.p.A
Address:	Via Stazione di Prosecco 5/b, 34010 Sgonico - Trieste, Italy

Manufacturer or Supplier:	Telit Communications S.p.A
Address:	Via Stazione di Prosecco 5/b, 34010 Sgonico - Trieste, Italy
Product:	802.11 a/b/g/n/ac/ax WiFi Module+BT combo module
Brand Name:	Telit Cinterion
Model Name:	WE310K6-P / WE310K6-P M.2
FCC ID:	RI7WE310K6P
Date of tests:	Jan. 02, 2024 ~ Apr. 25, 2024

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: Apr. 25, 2024	 Date: Apr. 25, 2024

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-231127W001RF03	Original release	Apr. 25, 2024

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

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

NOTE:

- Except the data of RSE and Band Edge Measurement, other data please refer to the Appendix
- (1) 242T(RU fully) mode and 802.11ax 20 are the same ;
802.11 ax HE20 26T,52T,106T modes tested
 - (2) 802.11 ax HE40 484T and 802.11ax 40 are the same
26T,52T,106T,and 242T modes are covered by the 802.11 ax HE20 modes
 - (3) 802.11 ax HE80 996T and 802.11ax 80 are the same
26T,52T,106T,and 242T modes are covered by the 802.11 ax HE20 and 802.11 ax HE40 modes
- Only the worse data were report

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	802.11 a/b/g/n/ac/ax WiFi Module+BT combo module
BRAND NAME	Telit Cinterion
MODEL NAME	WE310K6-P / WE310K6-P M.2
NOMINAL VOLTAGE	3.3Vdc
MODULATION	OFDM, OFDMA
TRANSFER RATE	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 300.0Mbps 802.11ac: up to 866.6Mbps 802.11ax: up to 1201Mbps
OPERATING FREQUENCY	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5720MHz, 5745 ~ 5825MHz
NUMBER OF CHANNEL	5180 ~ 5240MHz: 4 for 802.11a, 802.11n/ac/ax (20MHz)/ 802.11ax(20M RU 26/52/106/242) 2 for 802.11n/ac/ax (40MHz)/ 802.11ax(40M RU 484) 1 for 802.11ac/ax (80MHz)/ 802.11ax(80MRU996) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n/ac/ax (20MHz)/ 802.11ax(20M RU 26/52/106/242) 2 for 802.11n/ac/ax (40MHz)/ 802.11ax(40M RU 484) 1 for 802.11ac/ax (80MHz)/ 802.11ax(80M RU 996) 5500 ~ 5720MHz: 12 for 802.11a, 802.11n/ac/ax (20MHz)/ 802.11ax(20M RU 26/52/106/242) 6 for 802.11n/ac/ax (40MHz)/ 802.11ax(40M RU 484) 3 for 802.11ac/ax (80MHz)/ 802.11ax(80M RU 996) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n/ac/ax (20MHz)/ 802.11ax(20M RU 26/52/106/242) 2 for 802.11n/ac/ax (40MHz)/ 802.11ax(40M RU 484) 1 for 802.11ac/ax (80MHz)/ 802.11ax(80MRU 996)
MAX. OUTPUT POWER	54.95mW for 5180 ~ 5240MHz 53.83mW for 5260 ~ 5320MHz



	55.34mW for 5500 ~ 5720MHz 56.23mW for 5745 ~ 5825MHz
ANTENNA TYPE	Dipole Antenna
ANTENNA GAIN	ANT 1: 4.5dBi for 5180 ~ 5240MHz 4.5dBi for 5260 ~ 5320MHz 4.5dBi for 5500 ~ 5720MHz 4.5dBi for 5745 ~ 5825MHz ANT 2: 4.5dBi for 5180 ~ 5240MHz 4.5dBi for 5260 ~ 5320MHz 4.5dBi for 5500 ~ 5720MHz 4.5dBi for 5745 ~ 5825MHz
HW VERSION	1.0
SW VERSION	V0.29.29.0
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	N/A

NOTE:

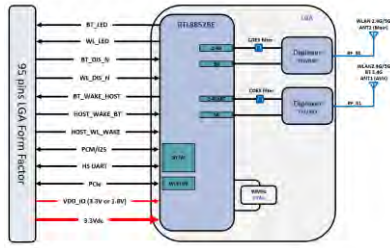
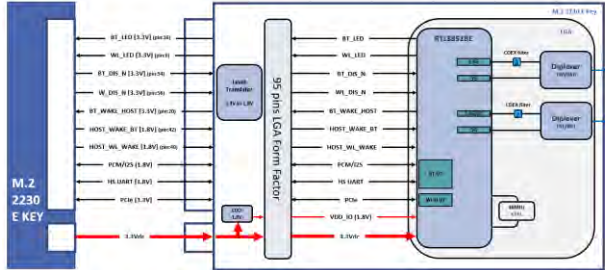
1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitter and two receiver.

MODULATION MODE	TX FUNCTION
802.11a	2TX/2RX
802.11n/802.11ac/ax (20MHz)	2TX/2RX
802.11n/802.11ac/ax (40MHz)	2TX/2RX
802.11ac/ax (80MHz)	2TX/2RX
802.11ax (20MHz RU 26/52/106/242)	2TX/2RX
802.11ax (40MHz RU 484)	2TX/2RX
802.11ax (80MHz RU 996)	2TX/2RX

3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
4. WE310K6-P and WE310K6-P M.2 have been tested and the results of them is similar. So the report only show the data for the worst model (WE310K6-P).
5. Antenna gain and EUT conducted cable loss are provided by the customer, and the laboratory will record the results based on these items that involve these two parameters.



6. The differences between WE310K6-P and WE310K6-P M.2 are as follows:

WE310K6-P	WE310K6-P M.2
	
	

The Main difference is whether the LGA module is mounted on the M.2 interface adapter board.

WE310K6-P: LGA module.

WE310K6-P M.2: LGA module + M.2 2230 E KEY interface adapter board.

7. EUT supports beamforming mode (RLAN and WIIF 6 RU RLAN) , but the power is much smaller than normal mode, and the report only reflects normal mode data

2.2 DESCRIPTION OF TEST MODES

FOR 5180 ~ 5240MHz

4 channels are provided for 802.11a, 802.11n, 802.11ac/ax (20MHz)/ 802.11ax (20MHz RU 26/52/106/242):

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/ax (40MHz)/ 802.11ax (40MHz RU 484):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac/ax (80MHz)/ 802.11ax (80MHz RU 996):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
42	5210 MHz		

FOR 5260 ~ 5320MHz

4 channels are provided for 802.11a, 802.11n, 802.11ac/ax (20MHz)/ 802.11ax (20MHz RU 26/52/106/242):

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/ax (40MHz)/ 802.11ax (40MHz RU 484):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac/ax (80MHz)/ 802.11ax (80MHz RU 996):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
58	5290 MHz		

FOR 5500 ~ 5720MHz

12 channels are provided for 802.11a, 802.11n, 802.11ac/ax (20MHz)/ 802.11ax (20MHz RU 26/52/106/242):

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/ax (40MHz)/ 802.11ax (40MHz RU 484):

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/ax (80MHz)/ 802.11ax (80MHz RU 996):

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/ax (20MHz)/ 802.11ax (20MHz RU 26/52/106/242):

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/ax (40MHz)/ 802.11ax (40MHz RU 484):

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

1 channel is provided for 802.11ac/ax (80MHz)/ 802.11ax (80MHz RU 996):

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	802.11ax (80MHz)	5180-5240	42	42	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).
- ☒ The following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
A	802.11n/ac/ax (20MHz)/ 802.11ax (20MHz RU 26/52/106/242)		36 to 48	36, 40, 48	OFDM, OFDMA	MCS0
A	802.11n/ac/ax (40MHz)/ 802.11ax (40MHz RU 484)		38 to 46	38, 46	OFDM, OFDMA	MCS0
A	802.11ac/ax (80MHz)/ 802.11ax (80MHz RU 996)		42	42	OFDM, OFDMA	MCS0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
A	802.11n/ac/ax (20MHz)/ 802.11ax (20MHz RU 26/52/106/242)		52 to 64	52, 60, 64	OFDM, OFDMA	MCS0
A	802.11n/ac/ax (40MHz)/ 802.11ax (40MHz RU 484)		54 to 62	54, 62	OFDM, OFDMA	MCS0
A	802.11ac/ax (80MHz)/ 802.11ax (80MHz RU 996)		58	58	OFDM, OFDMA	MCS0
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
A	802.11n/ac/ax (20MHz)/ 802.11ax (20MHz RU 26/52/106/242)		100 to 144	100, 116, 140, 144	OFDM, OFDMA	MCS0
A	802.11n/ac/ax (40MHz)/ 802.11ax (40MHz RU 484)		102 to 142	102, 110, 134, 142	OFDM, OFDMA	MCS0
A	802.11ac/ax (80MHz)/ 802.11ax (80MHz RU 996)		106 to 138	106, 122, 138	OFDM, OFDMA	MCS0
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
A	802.11n/ac/ax (20MHz)/ 802.11ax (20MHz RU 26/52/106/242)		149 to 165	149, 157, 165	OFDM, OFDMA	MCS0
A	802.11n/ac/ax (40MHz)/ 802.11ax (40MHz RU 484)		151 to 159	151, 159	OFDM, OFDMA	MCS0
A	802.11ac/ax (80MHz)/ 802.11ax (80MHz RU 996)		155	155	OFDM, OFDMA	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).
- ☒ 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	802.11ax (80MHz)	5180-5240	42	42	OFDM	MCS0

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
A	802.11n/ac/ax (20MHz)/ 802.11ax (20MHz RU 26/52/106/242)		36 to 48	36, 40, 48	OFDM, OFDMA	MCS0
A	802.11n/ac/ax (40MHz)/ 802.11ax (40MHz RU 484)		38 to 46	38, 46	OFDM, OFDMA	MCS0
A	802.11ac/ax (80MHz)/ 802.11ax (80MHz RU 996)		42	42	OFDM, OFDMA	MCS0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
A	802.11n/ac/ax (20MHz)/ 802.11ax (20MHz RU 26/52/106/242)		52 to 64	52, 60, 64	OFDM, OFDMA	MCS0
A	802.11n/ac/ax (40MHz)/ 802.11ax (40MHz RU 484)		54 to 62	54, 62	OFDM, OFDMA	MCS0
A	802.11ac/ax (80MHz)/ 802.11ax (80MHz RU 996)		58	58	OFDM, OFDMA	MCS0
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
A	802.11n/ac/ax (20MHz)/ 802.11ax (20MHz RU 26/52/106/242)		100 to 144	100, 116, 140, 144	OFDM, OFDMA	MCS0
A	802.11n/ac/ax (40MHz)/ 802.11ax (40MHz RU 484)		102 to 142	102, 110, 134, 142	OFDM, OFDMA	MCS0



A	802.11ac/ax (80MHz)/ 802.11ax (80MHz RU 996)		106 to 138	106, 122, 138	OFDM, OFDMA	MCS0
A	802.11a	5745-5825	149 to 165	149, 157,165	OFDM	6.0
A	802.11n/ac/ax (20MHz)/ 802.11ax (20MHz RU 26/52/106/242)		149 to 165	149, 157,165	OFDM, OFDMA	MCS0
A	802.11n/ac/ax (40MHz)/ 802.11ax (40MHz RU 484)		151 to 159	151, 159	OFDM, OFDMA	MCS0
A	802.11ac/ax (80MHz)/ 802.11ax (80MHz RU 996)		155	155	OFDM, OFDMA	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).
- ☒ The following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATIO N	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
A	802.11n/ac/ax (20MHz)/ 802.11ax (20MHz RU 26/52/106/242)		36 to 48	36, 40, 48	OFDM, OFDMA	MCS0
A	802.11n/ac/ax (40MHz)/ 802.11ax (40MHz RU 484)		38 to 46	38, 46	OFDM, OFDMA	MCS0
A	802.11ac/ax (80MHz)/ 802.11ax (80MHz RU 996)		42	42	OFDM, OFDMA	MCS0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
A	802.11n/ac/ax (20MHz)/ 802.11ax (20MHz RU 26/52/106/242)		52 to 64	52, 60, 64	OFDM, OFDMA	MCS0
A	802.11n/ac/ax (40MHz)/ 802.11ax (40MHz RU 484)		54 to 62	54, 62	OFDM, OFDMA	MCS0
A	802.11ac/ax (80MHz)/ 802.11ax (80MHz RU 996)		58	58	OFDM, OFDMA	MCS0
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
A	802.11n/ac/ax (20MHz)/ 802.11ax (20MHz RU 26/52/106/242)		100 to 144	100, 116, 140, 144	OFDM,	MCS0



					OFDMA	
A	802.11n/ac/ax (40MHz)/ 802.11ax (40MHz RU 484)		102 to 142	102, 110, 134,142	OFDM, OFDMA	MCS0
A	802.11ac/ax (80MHz)/ 802.11ax (80MHz RU 996)		106 to 138	106, 122, 138	OFDM, OFDMA	MCS0
A	802.11a		149 to 165	149, 157,165	OFDM	6.0
A	802.11n/ac/ax (20MHz)/ 802.11ax (20MHz RU 26/52/106/242)		149 to 165	149, 157,165	OFDM, OFDMA	MCS0
A	802.11n/ac/ax (40MHz)/ 802.11ax (40MHz RU 484)	5745-5825	151 to 159	151, 159	OFDM, OFDMA	MCS0
A	802.11ac/ax (80MHz)/ 802.11ax (80MHz RU 996)		155	155	OFDM, OFDMA	MCS0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE<1G	23deg. C, 70%RH	DC 3.3V	Jace Hu
RE≥1G	23deg. C, 70%RH	DC 3.3V	Jace Hu
PLC	25deg. C, 52%RH	DC 3.3V	James Fu
APCM	25deg. C, 60%RH	DC 3.3V	James Fu



Test Report No.: W7L-231127W001RF03

2.3 DUTY CYCLE OF TEST SIGNAL

Please Refer to Appendix Of this test report.

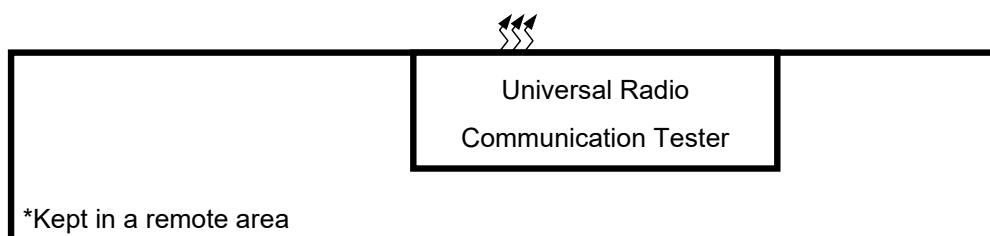
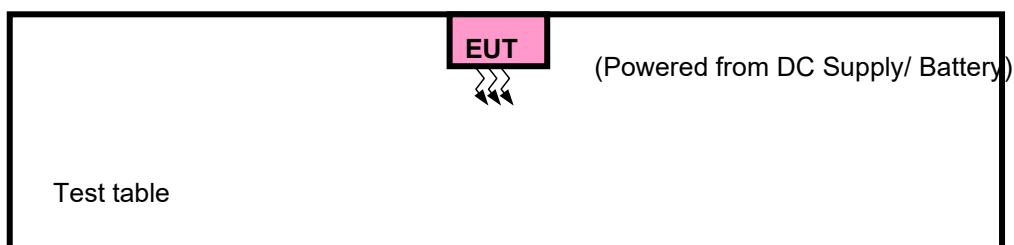
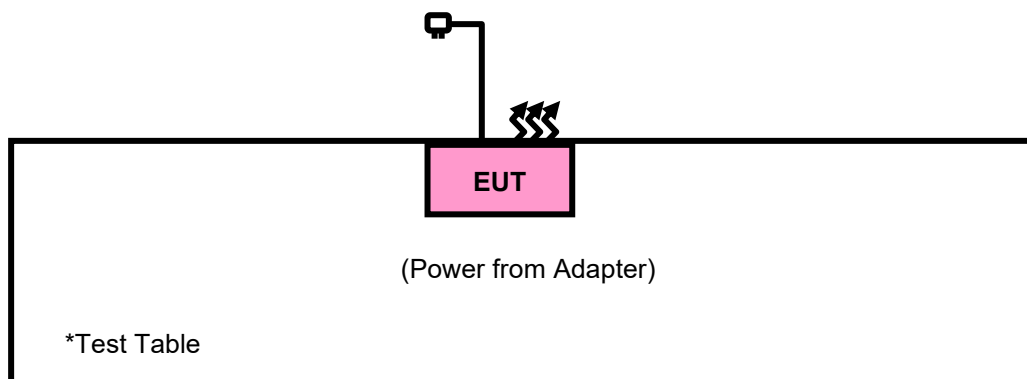
2.4 DESCRIPTION OF SUPPORT UNITS

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

FCC Part 15, Subpart E (15.407)

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

ANSI C63.10-2020

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

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

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:

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

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	Nov. 14,23	Nov. 13,26
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Feb. 19,23	Feb. 18,24
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Feb. 18,24	Feb. 17,25
Horn Antenna	ETS-LINDGREN	3117	00168692	Feb. 19,23	Feb. 18,24
Horn Antenna	ETS-LINDGREN	3117	00168692	Feb. 18,24	Feb. 17,25
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Sep.04, 23	Sep.03, 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
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Mar. 27,24	Mar. 26,25
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. 18,23	Feb. 17,24
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 17,24	Feb. 16,25
DC Source	Kikusui/JP	PMX18-5A	0000001	Aug. 12,23	Aug. 11,24
Power Meter	Anritsu	ML2495A	1506002	Feb. 15,23	Feb. 14,24
Power Meter	Anritsu	ML2495A	1506002	Feb. 14,24	Feb. 13,25
Power Sensor	Anritsu	MA2411B	1339352	Feb. 15,23	Feb. 14,24
Power Sensor	Anritsu	MA2411B	1339352	Feb. 14,24	Feb. 13,25
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.03,23	Sep.02,24

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 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:

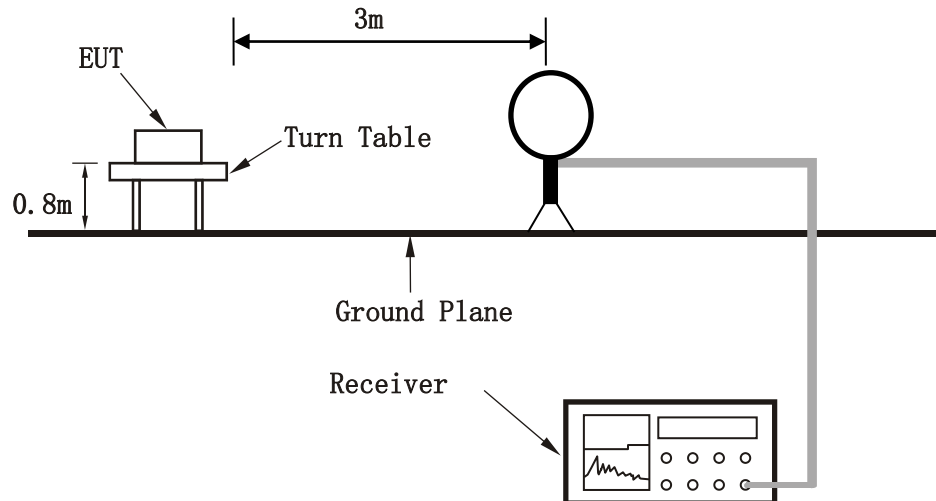
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency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

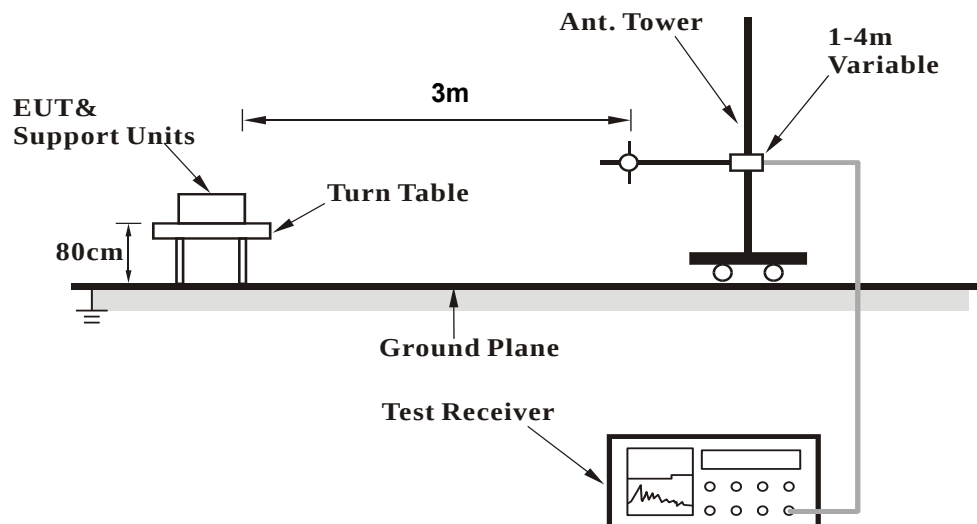
No deviation.

3.1.6 TEST SETUP

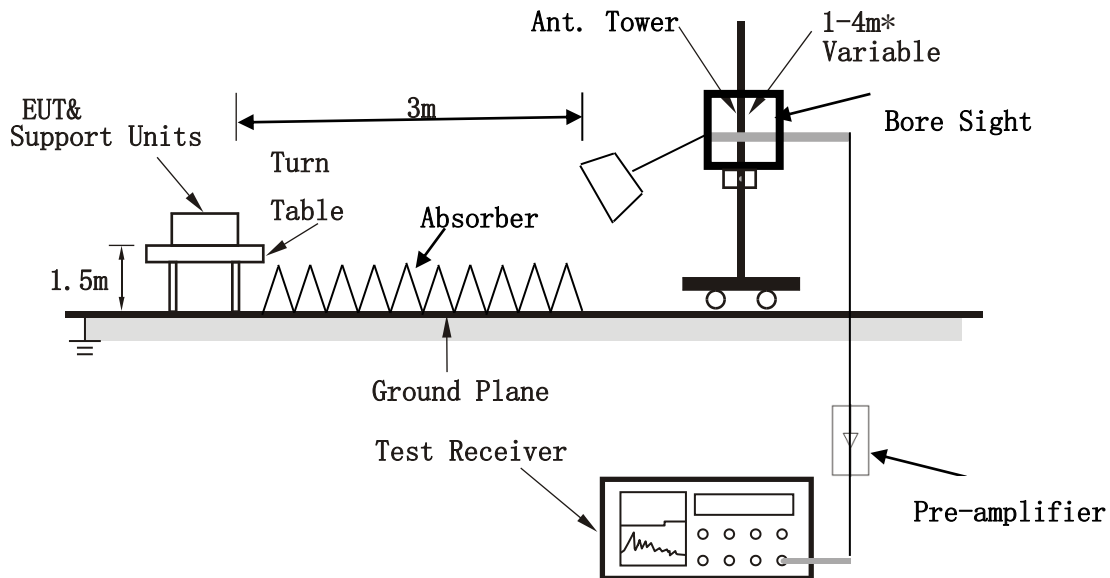
<Frequency Range 9KHz~30MHz >



< 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

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



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

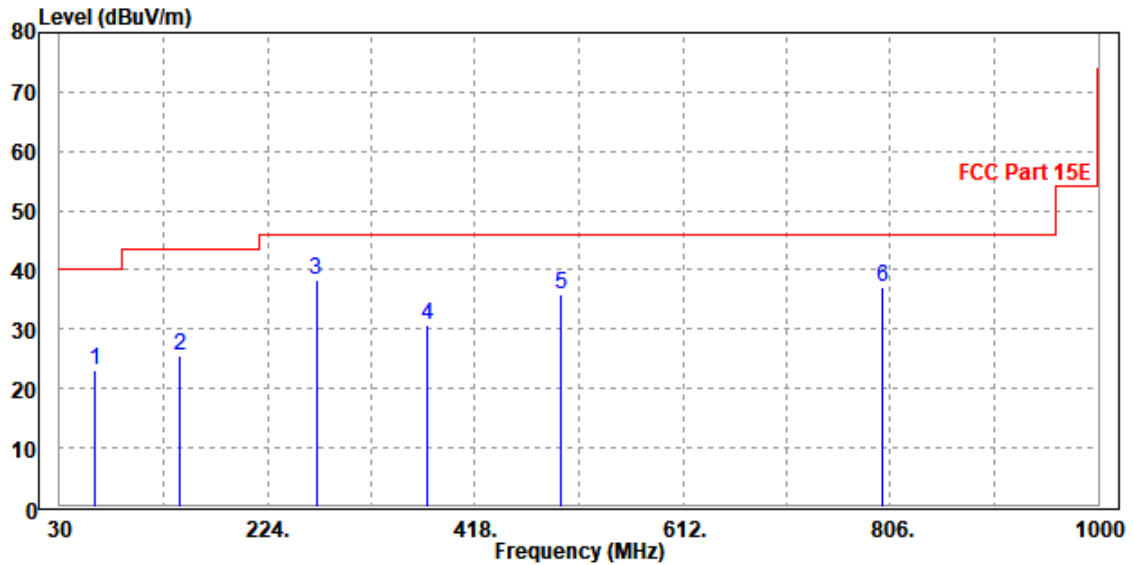
802.11ax (80MHz):

CHANNEL	TX Channel 42	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
62.98	22.97	46.62	40	-17.03	7.28	6.32	37.25	100	0	Peak
142.52	25.61	46.31	43.5	-17.89	9.43	6.73	36.86	100	0	Peak
269.59	38.21	53.73	46	-7.79	13.87	7.22	36.61	100	0	Peak
373.38	30.83	43.97	46	-15.17	16.13	7.5	36.77	100	0	Peak
497.54	35.76	46.23	46	-10.24	18.65	7.94	37.06	100	0	Peak
799.21	37.03	42.38	46	-8.97	23.69	8.6	37.64	100	0	Peak

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.

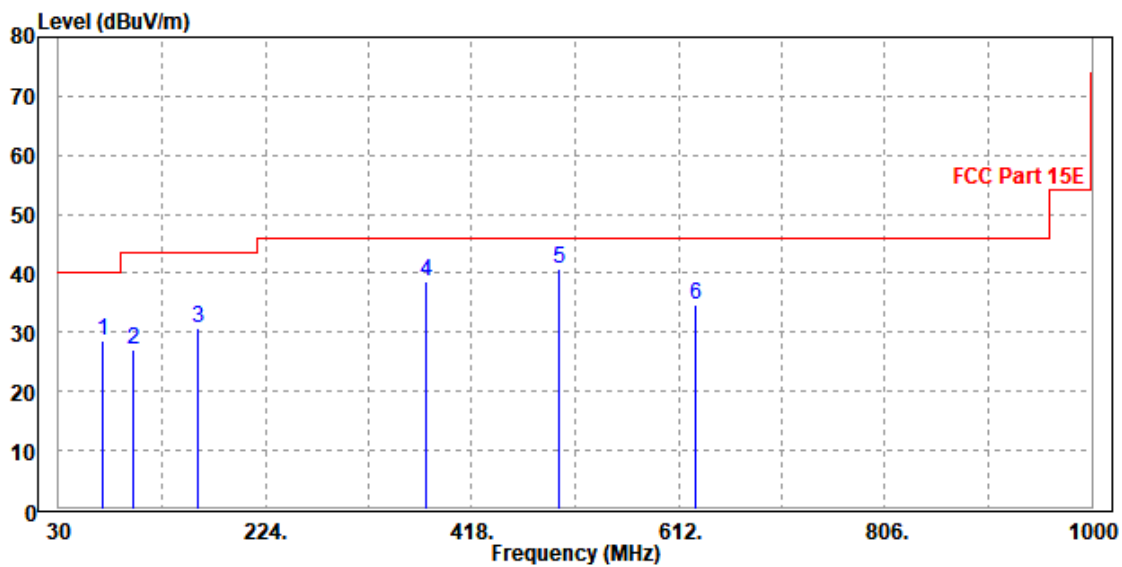


CHANNEL	Channel 42	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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
71.71	28.7	51.99	40	-11.3	7.4	6.39	37.08	100	360	Peak
99.84	27.18	48.89	43.5	-16.32	8.78	6.54	37.03	100	360	Peak
160.95	30.84	46.13	43.5	-12.66	14.71	6.78	36.78	100	360	Peak
374.35	38.63	51.07	46	-7.37	16.83	7.5	36.77	100	360	Peak
499.48	40.77	50.4	46	-5.23	19.49	7.95	37.07	100	360	Peak
628.49	34.58	42.24	46	-11.42	21.27	8.27	37.2	100	360	Peak

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.





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ABOVE 1GHz WORST-CASE DATA:

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

SISO

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	54.64	55.73	74.00	-19.36	34.26	11.17	46.52	200	283	Peak
5150	48.07	49.16	54.00	-5.93	34.26	11.17	46.52	200	283	Average
5180	102.24	103.30	/	/	34.27	11.20	46.53	200	283	Peak
5180	96.44	97.50	/	/	34.27	11.20	46.53	200	283	Average
5350	54.52	55.37	74.00	-19.48	34.34	11.39	46.58	200	283	Peak
5350	48.10	48.95	54.00	-5.90	34.34	11.39	46.58	200	283	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	54.77	55.70	74.00	-19.23	34.42	11.17	46.52	120	283	Peak
5150	49.91	50.84	54.00	-4.09	34.42	11.17	46.52	120	283	Average
5180	111.87	112.76	/	/	34.44	11.20	46.53	120	283	Peak
5180	106.09	106.98	/	/	34.44	11.20	46.53	120	283	Average
5350	54.28	54.89	74.00	-19.72	34.58	11.39	46.58	120	283	Peak
5350	47.63	48.24	54.00	-6.37	34.58	11.39	46.58	120	283	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	54.60	55.69	74.00	-19.40	34.26	11.17	46.52	100	283	Peak
5150	47.66	48.75	54.00	-6.34	34.26	11.17	46.52	100	283	Average
5200	102.22	103.26	/	/	34.28	11.22	46.54	100	283	Peak
5200	96.38	97.42	/	/	34.28	11.22	46.54	100	283	Average
5350	56.72	57.57	74.00	-17.28	34.34	11.39	46.58	100	283	Peak
5350	47.81	48.66	54.00	-6.19	34.34	11.39	46.58	100	283	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	55.90	56.83	74.00	-18.10	34.42	11.17	46.52	100	283	Peak
5150	48.28	49.21	54.00	-5.72	34.42	11.17	46.52	100	283	Average
5200	110.98	111.84	/	/	34.46	11.22	46.54	100	283	Peak
5200	105.36	106.22	/	/	34.46	11.22	46.54	100	283	Average
5350	54.70	55.31	74.00	-19.30	34.58	11.39	46.58	100	283	Peak
5350	48.44	49.05	54.00	-5.56	34.58	11.39	46.58	100	283	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
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										
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	55.05	56.14	74.00	-18.95	34.26	11.17	46.52	190	283	Peak
5150	47.87	48.96	54.00	-6.13	34.26	11.17	46.52	190	283	Average
5240	102.06	103.04	/	/	34.30	11.27	46.55	190	283	Peak
5240	96.28	97.26	/	/	34.30	11.27	46.55	190	283	Average
5350	55.78	56.63	74.00	-18.22	34.34	11.39	46.58	190	283	Peak
5350	47.99	48.84	54.00	-6.01	34.34	11.39	46.58	190	283	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	53.92	54.85	74.00	-20.08	34.42	11.17	46.52	107	283	Peak
5150	48.34	49.27	54.00	-5.66	34.42	11.17	46.52	107	283	Average
5240	110.23	111.02	/	/	34.49	11.27	46.55	107	283	Peak
5240	104.67	105.46	/	/	34.49	11.27	46.55	107	283	Average
5350	55.36	55.97	74.00	-18.64	34.58	11.39	46.58	107	283	Peak
5350	48.16	48.77	54.00	-5.84	34.58	11.39	46.58	107	283	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 5240MHz: Fundamental frequency.



**BUREAU
VERITAS**

Test Report No.: W7L-231127W001RF03

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	55.37	56.46	74.00	-18.63	34.26	11.17	46.52	100	283	Peak
5150	47.43	48.52	54.00	-6.57	34.26	11.17	46.52	100	283	Average
5180	98.46	99.52	/	/	34.27	11.20	46.53	100	283	Peak
5180	93.98	95.04	/	/	34.27	11.20	46.53	100	283	Average
5350	55.01	55.86	74.00	-18.99	34.34	11.39	46.58	100	283	Peak
5350	47.80	48.65	54.00	-6.20	34.34	11.39	46.58	100	283	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	54.80	55.73	74.00	-19.20	34.42	11.17	46.52	120	283	Peak
5150	50.54	51.47	54.00	-3.46	34.42	11.17	46.52	120	283	Average
5180	108.78	109.67	/	/	34.44	11.20	46.53	120	283	Peak
5180	104.63	105.52	/	/	34.44	11.20	46.53	120	283	Average
5350	55.06	55.67	74.00	-18.94	34.58	11.39	46.58	120	283	Peak
5350	48.50	49.11	54.00	-5.50	34.58	11.39	46.58	120	283	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 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	55.60	56.69	74.00	-18.40	34.26	11.17	46.52	100	283	Peak
5150	47.23	48.32	54.00	-6.77	34.26	11.17	46.52	100	283	Average
5200	98.14	99.18	/	/	34.28	11.22	46.54	100	283	Peak
5200	93.97	95.01	/	/	34.28	11.22	46.54	100	283	Average
5350	54.33	55.18	74.00	-19.67	34.34	11.39	46.58	100	283	Peak
5350	47.64	48.49	54.00	-6.36	34.34	11.39	46.58	100	283	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	54.24	55.17	74.00	-19.76	34.42	11.17	46.52	126	283	Peak
5150	47.67	48.60	54.00	-6.33	34.42	11.17	46.52	126	283	Average
5200	107.34	108.20	/	/	34.46	11.22	46.54	126	283	Peak
5200	103.40	104.26	/	/	34.46	11.22	46.54	126	283	Average
5350	54.64	55.25	74.00	-19.36	34.58	11.39	46.58	126	283	Peak
5350	47.97	48.58	54.00	-6.03	34.58	11.39	46.58	126	283	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
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										
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	54.17	55.26	74.00	-19.83	34.26	11.17	46.52	192	283	Peak
5150	47.58	48.67	54.00	-6.42	34.26	11.17	46.52	192	283	Average
5240	98.43	99.41	/	/	34.30	11.27	46.55	192	283	Peak
5240	94.77	95.75	/	/	34.30	11.27	46.55	192	283	Average
5350	53.20	54.05	74.00	-20.80	34.34	11.39	46.58	192	283	Peak
5350	47.49	48.34	54.00	-6.51	34.34	11.39	46.58	192	283	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	53.98	54.91	74.00	-20.02	34.42	11.17	46.52	105	283	Peak
5150	48.28	49.21	54.00	-5.72	34.42	11.17	46.52	105	283	Average
5240	106.99	107.78	/	/	34.49	11.27	46.55	105	283	Peak
5240	102.82	103.61	/	/	34.49	11.27	46.55	105	283	Average
5350	53.77	54.38	74.00	-20.23	34.58	11.39	46.58	105	283	Peak
5350	47.89	48.50	54.00	-6.11	34.58	11.39	46.58	105	283	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 5240MHz: Fundamental frequency.



**BUREAU
VERITAS**

Test Report No.: W7L-231127W001RF03

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	53.73	54.82	74.00	-20.27	34.26	11.17	46.52	100	283	Peak
5150	47.20	48.29	54.00	-6.80	34.26	11.17	46.52	100	283	Average
5190	96.04	97.08	/	/	34.28	11.21	46.53	100	283	Peak
5190	91.85	92.89	/	/	34.28	11.21	46.53	100	283	Average
5350	53.16	54.01	74.00	-20.84	34.34	11.39	46.58	100	283	Peak
5350	47.45	48.30	54.00	-6.55	34.34	11.39	46.58	100	283	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	55.78	56.71	74.00	-18.22	34.42	11.17	46.52	120	283	Peak
5150	50.81	51.74	54.00	-3.19	34.42	11.17	46.52	120	283	Average
5190	105.35	106.22	/	/	34.45	11.21	46.53	120	283	Peak
5190	100.66	101.53	/	/	34.45	11.21	46.53	120	283	Average
5350	55.16	55.77	74.00	-18.84	34.58	11.39	46.58	120	283	Peak
5350	47.83	48.44	54.00	-6.17	34.58	11.39	46.58	120	283	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
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										
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	53.18	54.27	74.00	-20.82	34.26	11.17	46.52	195	183	Peak
5150	47.42	48.51	54.00	-6.58	34.26	11.17	46.52	195	183	Average
5230	96.16	97.15	/	/	34.29	11.26	46.54	195	183	Peak
5230	91.42	92.41	/	/	34.29	11.26	46.54	195	183	Average
5350	53.47	54.32	74.00	-20.53	34.34	11.39	46.58	195	183	Peak
5350	47.37	48.22	54.00	-6.63	34.34	11.39	46.58	195	183	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	53.92	54.85	74.00	-20.08	34.42	11.17	46.52	108	283	Peak
5150	47.31	48.24	54.00	-6.69	34.42	11.17	46.52	108	283	Average
5230	104.59	105.39	/	/	34.48	11.26	46.54	108	283	Peak
5230	100.11	100.91	/	/	34.48	11.26	46.54	108	283	Average
5350	54.58	55.19	74.00	-19.42	34.58	11.39	46.58	108	283	Peak
5350	47.74	48.35	54.00	-6.26	34.58	11.39	46.58	108	283	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 5230MHz: Fundamental frequency.



802.11ax (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	53.30	54.39	74.00	-20.70	34.26	11.17	46.52	103	283	Peak
5150	47.72	48.81	54.00	-6.28	34.26	11.17	46.52	103	283	Average
5180	102.73	103.79	/	/	34.27	11.20	46.53	103	283	Peak
5180	94.56	95.62	/	/	34.27	11.20	46.53	103	283	Average
5350	52.95	53.80	74.00	-21.05	34.34	11.39	46.58	103	283	Peak
5350	48.51	49.36	54.00	-5.49	34.34	11.39	46.58	103	283	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	54.36	55.29	74.00	-19.64	34.42	11.17	46.52	120	283	Peak
5150	49.12	50.05	54.00	-4.88	34.42	11.17	46.52	120	283	Average
5180	112.00	112.89	/	/	34.44	11.20	46.53	120	283	Peak
5180	103.99	104.88	/	/	34.44	11.20	46.53	120	283	Average
5350	55.10	55.71	74.00	-18.90	34.58	11.39	46.58	120	283	Peak
5350	47.51	48.12	54.00	-6.49	34.58	11.39	46.58	120	283	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 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	53.25	54.34	74.00	-20.75	34.26	11.17	46.52	100	283	Peak
5150	47.79	48.88	54.00	-6.21	34.26	11.17	46.52	100	283	Average
5200	102.42	103.46	/	/	34.28	11.22	46.54	100	283	Peak
5200	94.09	95.13	/	/	34.28	11.22	46.54	100	283	Average
5350	53.18	54.03	74.00	-20.82	34.34	11.39	46.58	100	283	Peak
5350	47.32	48.17	54.00	-6.68	34.34	11.39	46.58	100	283	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	54.36	55.29	74.00	-19.64	34.42	11.17	46.52	120	283	Peak
5150	49.12	50.05	54.00	-4.88	34.42	11.17	46.52	120	283	Average
5200	112.00	112.89	/	/	34.44	11.20	46.53	120	283	Peak
5200	103.99	104.88	/	/	34.44	11.20	46.53	120	283	Average
5350	55.10	55.71	74.00	-18.90	34.58	11.39	46.58	120	283	Peak
5350	47.51	48.12	54.00	-6.49	34.58	11.39	46.58	120	283	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
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										
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	53.38	54.47	74.00	-20.62	34.26	11.17	46.52	197	283	Peak
5150	47.95	49.04	54.00	-6.05	34.26	11.17	46.52	197	283	Average
5240	102.80	103.78	/	/	34.30	11.27	46.55	197	283	Peak
5240	94.21	95.19	/	/	34.30	11.27	46.55	197	283	Average
5350	53.63	54.48	74.00	-20.37	34.34	11.39	46.58	197	283	Peak
5350	47.27	48.12	54.00	-6.73	34.34	11.39	46.58	197	283	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	55.80	74.00	-19.13	34.42	11.17	46.52	100	283	Peak
5150	47.70	48.63	54.00	-6.30	34.42	11.17	46.52	100	283	Average
5240	110.63	111.42	/	/	34.49	11.27	46.55	100	283	Peak
5240	102.31	103.10	/	/	34.49	11.27	46.55	100	283	Average
5350	54.12	54.73	74.00	-19.88	34.58	11.39	46.58	100	283	Peak
5350	47.73	48.34	54.00	-6.27	34.58	11.39	46.58	100	283	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 5240MHz: Fundamental frequency.



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Test Report No.: W7L-231127W001RF03

802.11ax (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	52.95	54.04	74.00	-21.05	34.26	11.17	46.52	100	283	Peak
5150	47.32	48.41	54.00	-6.68	34.26	11.17	46.52	100	283	Average
5190	98.32	99.36	/	/	34.28	11.21	46.53	100	283	Peak
5190	91.60	92.64	/	/	34.28	11.21	46.53	100	283	Average
5350	53.83	54.68	74.00	-20.17	34.34	11.39	46.58	100	283	Peak
5350	47.37	48.22	54.00	-6.63	34.34	11.39	46.58	100	283	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	55.49	56.42	74.00	-18.51	34.42	11.17	46.52	115	283	Peak
5150	50.68	51.61	54.00	-3.32	34.42	11.17	46.52	115	283	Average
5190	107.31	108.18	/	/	34.45	11.21	46.53	115	283	Peak
5190	100.59	101.46	/	/	34.45	11.21	46.53	115	283	Average
5350	53.98	54.59	74.00	-20.02	34.58	11.39	46.58	115	283	Peak
5350	48.01	48.62	54.00	-5.99	34.58	11.39	46.58	115	283	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
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										
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	52.82	53.91	74.00	-21.18	34.26	11.17	46.52	192	283	Peak
5150	47.19	48.28	54.00	-6.81	34.26	11.17	46.52	192	283	Average
5230	97.53	98.52	/	/	34.29	11.26	46.54	192	283	Peak
5230	90.99	91.98	/	/	34.29	11.26	46.54	192	283	Average
5350	52.82	53.67	74.00	-21.18	34.34	11.39	46.58	192	283	Peak
5350	47.32	48.17	54.00	-6.68	34.34	11.39	46.58	192	283	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	53.39	54.32	74.00	-20.61	34.42	11.17	46.52	110	283	Peak
5150	47.45	48.38	54.00	-6.55	34.42	11.17	46.52	110	283	Average
5230	106.15	106.95	/	/	34.48	11.26	46.54	110	283	Peak
5230	99.54	100.34	/	/	34.48	11.26	46.54	110	283	Average
5350	53.31	53.92	74.00	-20.69	34.58	11.39	46.58	110	283	Peak
5350	48.18	48.79	54.00	-5.82	34.58	11.39	46.58	110	283	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 5230MHz: Fundamental frequency.



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Test Report No.: W7L-231127W001RF03

802.11ax (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	53.70	54.79	74.00	-20.30	34.26	11.17	46.52	100	283	Peak
5150	47.57	48.66	54.00	-6.43	34.26	11.17	46.52	100	283	Average
5210	90.93	91.95	/	/	34.28	11.24	46.54	100	283	Peak
5210	86.28	87.30	/	/	34.28	11.24	46.54	100	283	Average
5350	53.27	54.12	74.00	-20.73	34.34	11.39	46.58	100	283	Peak
5350	47.43	48.28	54.00	-6.57	34.34	11.39	46.58	100	283	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	54.88	55.81	74.00	-19.12	34.42	11.17	46.52	120	283	Peak
5150	50.89	51.82	54.00	-3.11	34.42	11.17	46.52	120	283	Average
5210	99.98	100.81	/	/	34.47	11.24	46.54	120	283	Peak
5210	94.66	95.49	/	/	34.47	11.24	46.54	120	283	Average
5350	53.73	54.34	74.00	-20.27	34.58	11.39	46.58	120	283	Peak
5350	47.53	48.14	54.00	-6.47	34.58	11.39	46.58	120	283	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 5210MHz: 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	52.93	54.02	74	-21.07	34.26	11.17	46.52	100	283	Peak
5150	47.45	48.54	54	-6.55	34.26	11.17	46.52	100	283	Average
5210	90.27	91.29	/	/	34.28	11.24	46.54	100	283	Peak
5210	86.54	87.56	/	/	34.28	11.24	46.54	100	283	Average
5350	52.6	53.45	74	-21.4	34.34	11.39	46.58	100	283	Peak
5350	47.17	48.02	54	-6.83	34.34	11.39	46.58	100	283	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	55.1	56.03	74	-18.9	34.42	11.17	46.52	125	283	Peak
5150	50.86	51.79	54	-3.14	34.42	11.17	46.52	125	283	Average
5210	99.24	100.07	/	/	34.47	11.24	46.54	125	283	Peak
5210	95.52	96.35	/	/	34.47	11.24	46.54	125	283	Average
5350	53.91	54.52	74	-20.09	34.58	11.39	46.58	125	283	Peak
5350	47.49	48.1	54	-6.51	34.58	11.39	46.58	125	283	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 5210MHz: Fundamental frequency.



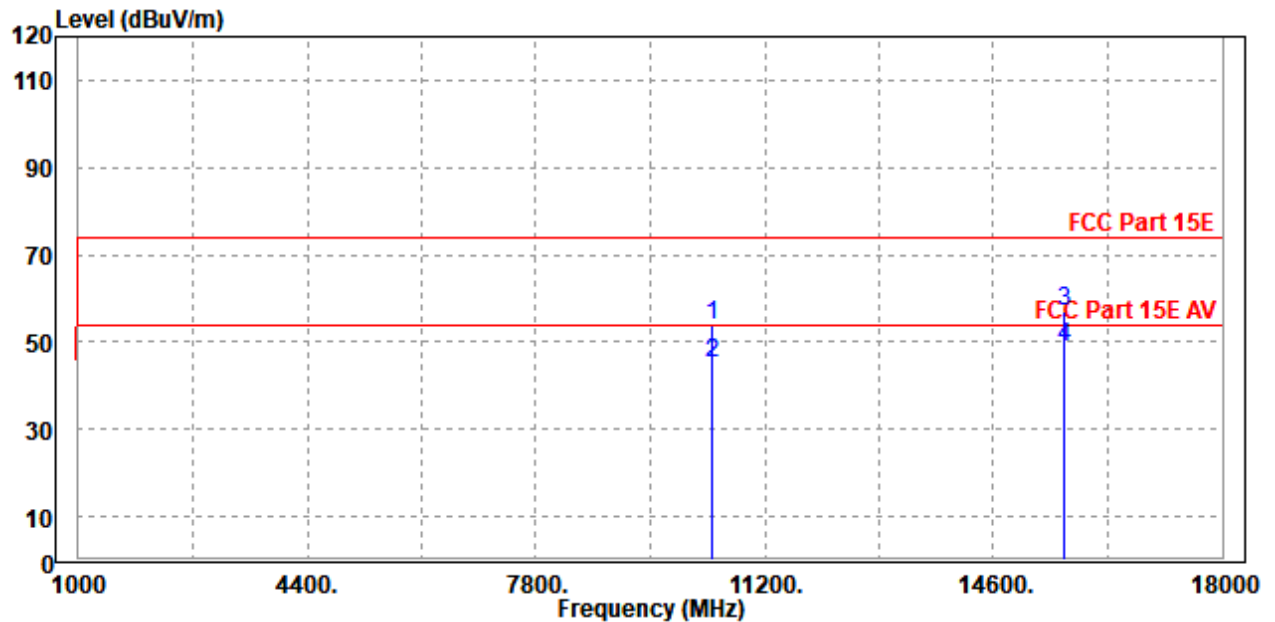
802.11ax (80MHz)

Worst case harmonic:

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

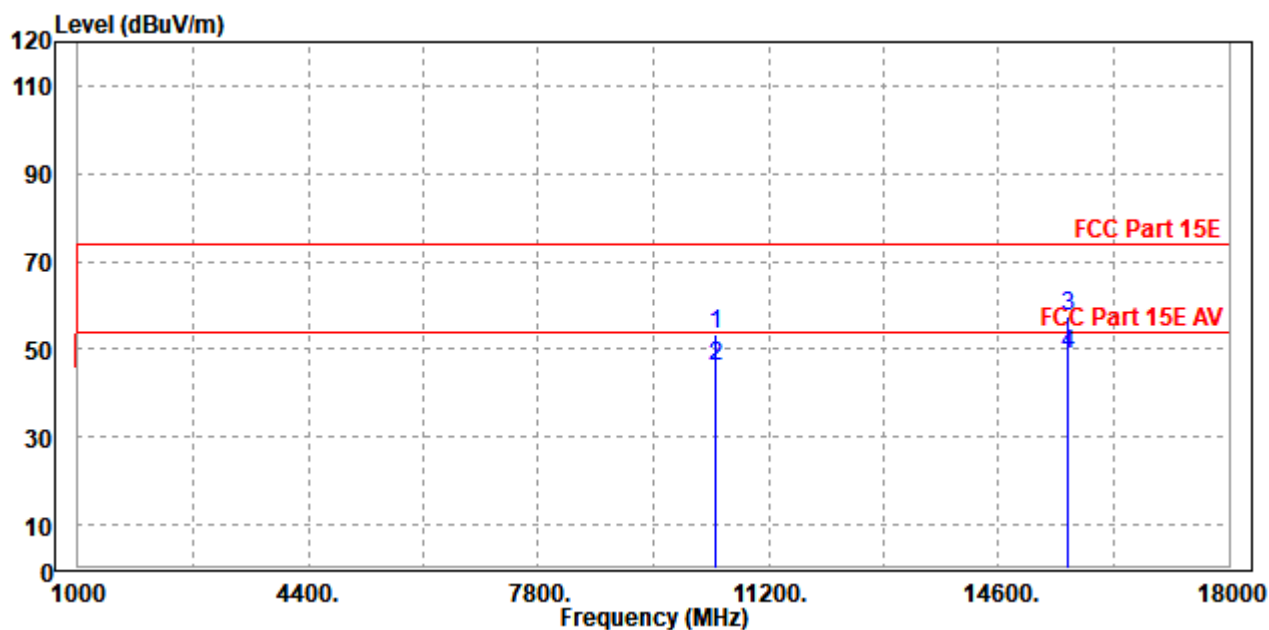
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBuV/m	dBuV	dBuV/m	dB	dB/m		
1	10420.000	53.66	45.50	74.00	-20.34	8.16	Peak	Horizontal
2	10420.000	45.03	36.87	54.00	-8.97	8.16	Average	Horizontal
3	PK15637.000	57.18	41.12	74.00	-16.82	16.06	Peak	Horizontal
4	PP15637.000	49.00	32.94	54.00	-5.00	16.06	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	10418.000	53.20	44.83	74.00	-20.80	8.37	Peak	Vertical
2	10418.000	46.23	37.86	54.00	-7.77	8.37	Average	Vertical
3	PK15630.000	57.71	41.44	74.00	-16.29	16.27	Peak	Vertical
4	PP15630.000	48.73	32.46	54.00	-5.27	16.27	Average	Vertical



REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
- 5210MHz: Fundamental frequency.
- 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-231127W001RF03

5G WIFI-RU

802.11ax (20MHz) (RU26):

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	53.98	55.07	74.00	-20.02	34.26	11.17	46.52	200	30	Peak
5150	47.42	48.51	54.00	-6.58	34.26	11.17	46.52	200	30	Average
5180	98.42	99.48	/	/	34.27	11.20	46.53	200	30	Peak
5180	92.65	93.71	/	/	34.27	11.20	46.53	200	30	Average
5350	53.42	54.27	74.00	-20.58	34.34	11.39	46.58	200	30	Peak
5350	47.48	48.33	54.00	-6.52	34.34	11.39	46.58	200	30	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	54.26	55.19	74.00	-19.74	34.42	11.17	46.52	140	280	Peak
5150	48.37	49.30	54.00	-5.63	34.42	11.17	46.52	140	280	Average
5180	109.18	110.07	/	/	34.44	11.20	46.53	140	280	Peak
5180	103.95	104.84	/	/	34.44	11.20	46.53	140	280	Average
5350	54.01	54.62	74.00	-19.99	34.58	11.39	46.58	140	280	Peak
5350	48.17	48.78	54.00	-5.83	34.58	11.39	46.58	140	280	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 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	54.12	55.21	74.00	-19.88	34.26	11.17	46.52	200	30	Peak
5150	46.95	48.04	54.00	-7.05	34.26	11.17	46.52	200	30	Average
5200	99.40	100.44	/	/	34.28	11.22	46.54	200	30	Peak
5200	94.29	95.33	/	/	34.28	11.22	46.54	200	30	Average
5350	53.39	54.24	74.00	-20.61	34.34	11.39	46.58	200	30	Peak
5350	46.86	47.71	54.00	-7.14	34.34	11.39	46.58	200	30	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	54.88	55.81	74.00	-19.12	34.42	11.17	46.52	140	280	Peak
5150	47.69	48.62	54.00	-6.31	34.42	11.17	46.52	140	280	Average
5200	108.71	109.57	/	/	34.46	11.22	46.54	140	280	Peak
5200	105.16	106.02	/	/	34.46	11.22	46.54	140	280	Average
5350	53.04	53.65	74.00	-20.96	34.58	11.39	46.58	140	280	Peak
5350	47.44	48.05	54.00	-6.56	34.58	11.39	46.58	140	280	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
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										
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	53.95	55.04	74.00	-20.05	34.26	11.17	46.52	200	30	Peak
5150	47.62	48.71	54.00	-6.38	34.26	11.17	46.52	200	30	Average
5240	104.86	105.84	/	/	34.30	11.27	46.55	200	30	Peak
5240	98.76	99.74	/	/	34.30	11.27	46.55	200	30	Average
5350	56.38	57.23	74.00	-17.62	34.34	11.39	46.58	200	30	Peak
5350	47.91	48.76	54.00	-6.09	34.34	11.39	46.58	200	30	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	52.78	53.71	74.00	-21.22	34.42	11.17	46.52	140	280	Peak
5150	47.58	48.51	54.00	-6.42	34.42	11.17	46.52	140	280	Average
5240	114.05	114.84	/	/	34.49	11.27	46.55	140	280	Peak
5240	108.97	109.76	/	/	34.49	11.27	46.55	140	280	Average
5350	53.65	54.26	74.00	-20.35	34.58	11.39	46.58	140	280	Peak
5350	47.61	48.22	54.00	-6.39	34.58	11.39	46.58	140	280	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 5240MHz: Fundamental frequency.



Test Report No.: W7L-231127W001RF03

802.11ax (20MHz) (RU52):

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	52.17	53.26	74.00	-21.83	34.26	11.17	46.52	200	30	Peak
5150	47.26	48.35	54.00	-6.74	34.26	11.17	46.52	200	30	Average
5180	97.78	98.84	/	/	34.27	11.20	46.53	200	30	Peak
5180	91.29	92.35	/	/	34.27	11.20	46.53	200	30	Average
5350	51.77	52.62	74.00	-22.23	34.34	11.39	46.58	200	30	Peak
5350	47.00	47.85	54.00	-7.00	34.34	11.39	46.58	200	30	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	52.42	53.35	74.00	-21.58	34.42	11.17	46.52	140	280	Peak
5150	48.39	49.32	54.00	-5.61	34.42	11.17	46.52	140	280	Average
5180	108.86	109.75	/	/	34.44	11.20	46.53	140	280	Peak
5180	101.31	102.20	/	/	34.44	11.20	46.53	140	280	Average
5350	52.61	53.22	74.00	-21.39	34.58	11.39	46.58	140	280	Peak
5350	47.95	48.56	54.00	-6.05	34.58	11.39	46.58	140	280	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 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	54.27	55.36	74.00	-19.73	34.26	11.17	46.52	200	30	Peak
5150	47.28	48.37	54.00	-6.72	34.26	11.17	46.52	200	30	Average
5200	97.30	98.34	/	/	34.28	11.22	46.54	200	30	Peak
5200	90.53	91.57	/	/	34.28	11.22	46.54	200	30	Average
5350	53.68	54.53	74.00	-20.32	34.34	11.39	46.58	200	30	Peak
5350	47.19	48.04	54.00	-6.81	34.34	11.39	46.58	200	30	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	55.39	56.32	74.00	-18.61	34.42	11.17	46.52	140	280	Peak
5150	48.13	49.06	54.00	-5.87	34.42	11.17	46.52	140	280	Average
5200	106.49	107.35	/	/	34.46	11.22	46.54	140	280	Peak
5200	100.41	101.27	/	/	34.46	11.22	46.54	140	280	Average
5350	54.31	54.92	74.00	-19.69	34.58	11.39	46.58	140	280	Peak
5350	47.55	48.16	54.00	-6.45	34.58	11.39	46.58	140	280	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 5200MHz: Fundamental frequency.



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Test Report No.: W7L-231127W001RF03

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	54.23	55.32	74.00	-19.77	34.26	11.17	46.52	100	25	Peak
5150	47.91	49.00	54.00	-6.09	34.26	11.17	46.52	100	25	Average
5240	99.80	100.78	/	/	34.30	11.27	46.55	100	25	Peak
5240	93.58	94.56	/	/	34.30	11.27	46.55	100	25	Average
5350	54.11	54.96	74.00	-19.89	34.34	11.39	46.58	100	25	Peak
5350	48.31	49.16	54.00	-5.69	34.34	11.39	46.58	100	25	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	50.06	50.99	74.00	-23.94	34.42	11.17	46.52	140	280	Peak
5150	43.03	43.96	54.00	-10.97	34.42	11.17	46.52	140	280	Average
5240	108.83	109.62	/	/	34.49	11.27	46.55	140	280	Peak
5240	102.46	103.25	/	/	34.49	11.27	46.55	140	280	Average
5350	50.58	51.19	74.00	-23.42	34.58	11.39	46.58	140	280	Peak
5350	42.80	43.41	54.00	-11.20	34.58	11.39	46.58	140	280	Average

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.
2. 5240MHz: Fundamental frequency.