



EMC TEST REPORT

Report No. : EME-020636
Model No. : XI-305M
Issued Date : June 20, 2002

Applicant : Z-COM, Inc.
**7F-2, No. 9, Prosperity 1St RD., Science-Based
Industrial Park, Hsinchu, Taiwan, R.O.C.**

Test By : Intertek Testing Services Taiwan Ltd.
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Hsinchu, Taiwan, R.O.C.**

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Project Engineer

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Approved By

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Summary of Tests

2.4GHz Wireless LAN Card-Model: XI-305M
FCC ID: M4Y-0305M

Test	Reference	Results
Minimum 6dB Bandwidth test	15.247(a)(2)	Complies
Maximum Output Power test	15.247(b)	Complies
RF Antenna Conducted Spurious test	15.247(c)	Complies
Radiated Spurious Emission test	15.205, 15.209	Complies
Power Spectrum Density test	15.247(d)	Complies
Power Line Conducted Emission test	15.207	Complies



1. General information

1.1 Identification of the EUT

Manufacturer	: Z-COM, Inc.
Product	: 2.4GHz Wireless LAN Card
Model No.	: XI-305M
FCC ID.	: M4Y-0305M
Frequency Range	: 2412MHz to 2462MHz
Channel Number	: 11 channels
Frequency of Each Channel	: 2412MHz, 2417MHz, 2422MHz, 2427MHz, 2432MHz, 2437MHz, 2442MHz, 2447MHz, 2452MHz, 2457MHz, 2462MHz
Type of Modulation	: CCK, DQPSK, DBPSK, DSSS
Power Supply	: 3.3V/5Vdc from PC
Power Cord	: N/A
Sample Received	: June 1, 2002
Test Date(s)	: June 4, 2002 to June 13, 2002

A FCC DoC report has been generated for the client.

1.2 Additional information about the EUT

The 11Mbps Wireless LAN Card is an IEEE802.11/802.11b-compliant PCMCIA Type II DSSS wireless LAN adapter. It fully supports wireless networking under Windows 98/ME/NT/2000/XP.

11Mbps Wireless LAN Card can be operated in Ad-Hoc or Infrastructure network configurations. *Ad-Hoc mode* allows 11Mbps Wireless PC Card users to join a Basic Service Set (i.e., peer-to-peer mode, without access point). *Infrastructure mode* allows 11Mbps Wireless PC Card users to join an Extended Basic Service Set (i.e., connect to an Access Point)



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The EUT, applied for module approval, can be equipped with three kind of antenna. The tests are based on the module with antenna separated. And the three combinations are listed as below:

Type of EUT	Definition in this report
Module with Path antenna	XI-305M (with Antenna 1)
Module with DIPOLE antenna (single)	XI-305M (with Antenna 2)
Module with DIPOLE antenna (a set of two)	XI-305M (with Antenna 3)

(please refer to External photo as file name “External photo.pdf)

We measured the Power Line conducted emission test and Radiated Spurious test of 3 antennas and recorded all the measurements in this report individually for each antenna.

During the Minimum 6dB bandwidth test, band-edge test, power spectrum density test and RF antenna conducted test, the test results are recorded separately for the two connectors equipped on the EUT due to those tests listed above are all related to conducted emission and the two different connectors on the EUT may make differences on the test results!

For more detail features, please refer to User's manual as file name “Installation guide.pdf”



1.3 Antenna description

The EUT can be equipped with three kind of antenna, the description of antenna listed as bellow:

For Antenna 1:

The antenna is affixed to the EUT using a unique connector, which allows for replacement of a broken antenna, but DOES NOT use a standard antenna jack or electrical connector.

Antenna Gain : 0dBi

Antenna Type : Path Antenna

For Antenna 2 (single):

The EUT uses a permanently connected antenna.

Antenna Gain : 3dBi

Antenna Type : DIPOLE Antenna

For Antenna 3 (a set of two)

The EUT uses a permanently connected antenna.

Antenna Gain : 3dBi

Antenna Type : DIPOLE Antenna

1.4 Peripherals equipment

Peripherals	Manufacturer	Product No.	Serial No.	FCC ID
Printer	HP	C2642A	TH86K1N2ZB	FCC DoC Approval
Notebook	HP	XE ₃	TW20705468	FCC DoC Approval
Modem	Aski	V1456VQE	700V23100066865	FCC DoC Approval



2. Test specifications

2.1 Test standard

The EUT was performed according to the procedures in FCC Part 15 Subpart C Section §15.207 、 §15.209 、 §15.247 and ANSI C63.4/1992.

The AC power conducted emissions was investigated over the frequency range from 0.45MHz to 30MHz using a receiver bandwidth of 9kHz. (15.207 paragraph)

Radiated emissions were investigated cover the frequency range from 30MHz to 1000MHz using a receiver RBW of 120kHz record QP reading, and the frequency over 1GHz using a spectrum analyzer RBW of 1MHz and 10Hz VBW record Average reading. (15.209 paragraph), the Peak reading recorded also on the report.

The test of radiated measurements according to FCC Part15 Section 15.33(a) had been conducted and the field strength of this frequency band were all meet limit requirement, thus we evaluate the EUT pass the specified test.

The EUT setup configurations please refer to the photo of test configuration in item.

2.2 Operation mode

Plug the EUT into Notebook and turn on the power of notebook then run the test program “AT76C502ARFmd.Test.exe” under Windows OS.

The EUT transmitted continuously during all the tests.



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2.4 Test equipment

Equipment	Brand	Frequency range	Model No.	Series No.	Cal.Date
EMI Receiver	Rohde & Schwarz	9kHz~2.75GHz	ESCS 30	825788/014	May 29, 2001
Pulse Limiter	Rohde & Schwarz	9kHz~30MHz	ESH3-Z2	848.766/052	N/A
Spectrum Analyzer	Rohde & Schwarz	9kHz~30GHz	FSP 30	100137	July 9, 2001
Horn Antenna	EMCO	1GHz~18GHz	3115	9906-5822	Sep. 10, 2001
Horn Antenna	SCHWARZBECK	14GHz~40GHz	BBHA 9170	159	June 21, 2001
Bilog Antenna	SCHWARZBECK	25MHz~1.7GHz	VULB 9160	3111	June 21, 2001
Turn Table	HDGmbH	N/A	DS 420S	420/669/01	N/A
Antenna Tower	HDGmbH	N/A	MA 240	240/573	N/A
Microwave Amplifier	Agilent	2GHz~26.5GHz	8348A	3111A00567	Dec. 20, 2002
RF Power Meter	Boonton	10kHz~100GHz	4230	27003	June 12, 2001
Power Sensor	Boonton	30MHz~8GHz	51011-EMC	30395	June 12, 2001
Power Sensor	Boonton	30MHz~8GHz	51011-EMC	30417	June 12, 2001

Note:

1. The calibration interval of the above instruments is 12 months.



3. Minimum 6dB Bandwidth test

3.1 Operating environment

Temperature: 25 °C
Relative Humidity: 62 %

3.2 Test setup & procedure

The minimum 6dB bandwidth per FCC §15.247(a)(2) was measured using a 50 ohm spectrum analyzer with the resolutions bandwidth set at 1MHz, the video bandwidth set at 3MHz, and the SPAN>>RBW. The test was performed at 3 channels (lowest, middle and highest channel). The minimum 6-dB modulation bandwidth is in the following Table.

See Minimum 6dB Bandwidth plot as file name “Minimum 6dB Bandwidth plot.pdf”

3.3 Measured data of Minimum 6dB Bandwidth test results

Test Condition: Connector A

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit
Low	2412.40	11.40	> 500kHz
Middle	2437.40	11.30	> 500kHz
High	2462.40	11.50	> 500kHz

Test Condition: Connector B

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit
Low	2413.40	11.30	> 500kHz
Middle	2437.20	11.40	> 500kHz
High	2462.40	11.60	> 500kHz



4. Maximum Output Power test

4.1 Operating environment

Temperature: 22 °C
Relative Humidity: 60 %

4.2 Test setup & procedure

The power output per FCC §15.247(b) was measured on the EUT using a 50 ohm SMA cable connected to power meter via power sensor. Power was read directly and cable loss correction (1dB) was added to the reading to obtain power at the EUT antenna terminals. The test was performed at 3 channels (lowest, middle and highest channel).

4.3 Measured data of Maximum Output Power test results

Test Condition: Connector A

Channel	Frequency (MHz)	C.B.L. (dB)	Reading (dBm)	Power Output		Limit (W)
				(dBm)	(mW)	
Lowest	2412	1	11.81	12.81	19.098	1
Middle	2437	1	10.54	11.54	14.256	1
Highest	2462	1	9.75	10.75	11.885	1

Test Condition: Connector B

Channel	Frequency (MHz)	C.B.L. (dB)	Reading (dBm)	Power Output		Limit (W)
				(dBm)	(mW)	
Lowest	2412	1	12.44	13.44	22.080	1
Middle	2437	1	13.01	14.01	25.176	1
Highest	2462	1	12.98	13.98	25.003	1



5. RF Antenna Conducted Spurious test

5.1 Operating environment

Temperature: 25 °C
Relative Humidity: 62 %

5.2 Test setup & procedure

The measurements were performed from 30MHz to 25GHz RF antenna conducted per FCC 15.247 (c) was measured from the EUT antenna port using a 50ohm spectrum analyzer with the resolution bandwidth set at 100 kHz, and the video bandwidth set at 300 kHz.

Harmonics and spurious noise must be at least 20dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW. The table below is the results from the highest emission for each channel within the authorized band. This table was used to determine the spurious limits for each channel.

See RF Antenna Conducted plot as file name “RF Antenna Conducted plot.pdf”

5.3 Measured data of the highest RF Antenna Conducted Spurious test result

Test Condition: Connector A

Channel	Max Spurious level at Frequency (MHz)	Spurious Emission level (dBuV)	Limit (dBuV)
Low	24820.00	40.06	81.54
Middle	8256.17	41.53	79.81
High	8361.40	42.04	77.02

Test Condition: Connector B

Channel	Max Spurious level at Frequency (MHz)	Spurious Emission level (dBuV)	Limit (dBuV)
Low	24490.00	37.17	86.99
Middle	24940.00	39.40	85.89
High	24790.00	38.86	84.34

Note: 1. Limit = peak power output (in 100kHz RBW) – 20dB
2. All the other emissions were very low the limit.

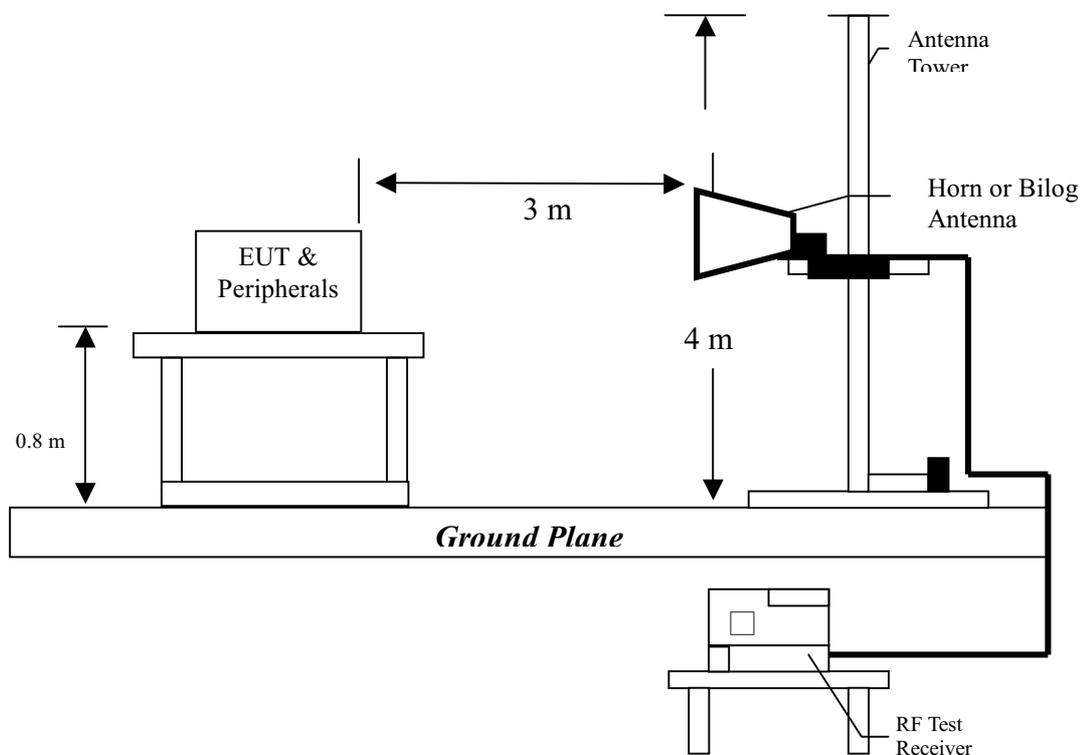
6. Radiated Emission test

6.1 Operating environment

Temperature: 25 °C
Relative Humidity: 62 %

6.2 Test setup & procedure

The Diagram below shows the test setup, which is utilized to make these measurements.



Radiated emission measurements were performed from 30MHz to 25GHz. Spectrum Analyzer Resolution Bandwidth is 100kHz or greater for frequencies 30MHz to 1GHz, 1MHz – for frequencies above 1GHz.

The EUT for testing is arranged on a wooden turntable. If some peripherals apply to the EUT, the peripherals will be connected to EUT and the whole system. During the test, all cables were arranged to produce worst-case emissions. The signal is maximized through rotation. The height of antenna and polarization is changing constantly for exploring for maximum signal level. The height of antenna can be up to 4 meters and down to 1 meter.

The measurement for radiated emission will be done at the distance of three meters unless the signal level is too low to measure at that distance. In the case of the reading under noise floor, a pre-amplifier is used and/or the test is conducted at a closer distance. And then all readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance.



6.3 Emission limits

The spurious Emission shall test through the 10th harmonic. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

Frequency (MHz)	Limits (dB μ V/m@3m)
30-88	40
88-216	43.5
216-960	46
Above 960	54

Remark:

1. In the above table, the tighter limit applies at the band edges.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

Uncertainty was calculated in accordance with NAMAS NIS 81.

Expanded uncertainty (k=2) of radiated emission measurement is ± 3.078 dB.



6.4 Radiated spurious emission test data

6.4.1 Measurement results: frequencies equal to or less than 1 GHz

EUT : XI-305M (with Antenna 1)

Test Condition : Tx at low channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
143.90000	QP	V	14.29	13.81	28.10	43.50	-15.40
186.60000	QP	V	13.55	7.95	21.50	43.50	-22.00
215.80000	QP	V	11.59	12.11	23.70	43.50	-19.80
220.10000	QP	V	11.82	15.68	27.50	46.00	-18.50
240.10000	QP	V	12.86	11.14	24.00	46.00	-22.00
260.60000	QP	V	13.32	10.88	24.20	46.00	-21.80
143.90000	QP	H	14.29	20.61	34.90	43.50	-8.60
179.60000	QP	H	14.21	17.09	31.30	43.50	-12.20
186.60000	QP	H	13.55	17.45	31.00	43.50	-12.50
215.80000	QP	H	11.59	25.51	37.10	43.50	-6.40
220.10000	QP	H	11.82	29.28	41.10	46.00	-4.90
260.60000	QP	H	13.32	23.48	36.80	46.00	-9.20

Remark:

1. Corrected Level = Reading Level + Correction Factor
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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EUT : XI-305M (with Antenna 1)

Test Condition : Tx at middle channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
143.90000	QP	V	14.29	13.91	28.20	43.50	-15.30
186.60000	QP	V	13.55	8.85	22.40	43.50	-21.10
215.80000	QP	V	11.59	14.11	25.70	43.50	-17.80
220.10000	QP	V	11.82	14.68	26.50	46.00	-19.50
240.10000	QP	V	12.86	10.94	23.80	46.00	-22.20
260.60000	QP	V	13.32	9.28	22.60	46.00	-23.40
143.90000	QP	H	14.29	19.21	33.50	43.50	-10.00
179.60000	QP	H	14.21	16.19	30.40	43.50	-13.10
186.60000	QP	H	13.55	17.95	31.50	43.50	-12.00
215.80000	QP	H	11.59	24.81	36.40	43.50	-7.10
220.10000	QP	H	11.82	28.98	40.80	46.00	-5.20
260.60000	QP	H	13.32	21.88	35.20	46.00	-10.80

Remark:

1. Corrected Level = Reading Level + Correction Factor
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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EUT : XI-305M (with Antenna 1)

Test Condition : Tx at high channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
143.90000	QP	V	14.29	12.41	26.70	43.50	-16.80
186.60000	QP	V	13.55	7.25	20.80	43.50	-22.70
215.80000	QP	V	11.59	11.91	23.50	43.50	-20.00
220.10000	QP	V	11.82	13.28	25.10	46.00	-20.90
240.10000	QP	V	12.86	8.64	21.50	46.00	-24.50
260.60000	QP	V	13.32	10.08	23.40	46.00	-22.60
143.90000	QP	H	14.29	17.21	31.50	43.50	-12.00
179.60000	QP	H	14.21	17.39	31.60	43.50	-11.90
186.60000	QP	H	13.55	17.35	30.90	43.50	-12.60
215.80000	QP	H	11.59	23.81	35.40	43.50	-8.10
220.10000	QP	H	11.82	29.68	41.50	46.00	-4.50
260.60000	QP	H	13.32	21.38	34.70	46.00	-11.30

Remark:

1. Corrected Level = Reading Level + Correction Factor
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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EUT : XI-305M (with Antenna 2)

Test Condition : Tx at low channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
143.60000	QP	V	14.29	9.11	23.40	43.50	-20.10
185.70000	QP	V	13.55	7.25	20.80	43.50	-22.70
214.50000	QP	V	11.59	7.81	19.40	43.50	-24.10
220.20000	QP	V	11.82	9.78	21.60	46.00	-24.40
240.10000	QP	V	12.86	9.24	22.10	46.00	-23.90
259.80000	QP	V	13.17	7.43	20.60	46.00	-25.40
180.40000	QP	H	14.29	17.81	32.10	43.50	-11.40
186.70000	QP	H	13.55	17.05	30.60	43.50	-12.90
215.80000	QP	H	13.55	17.85	31.40	43.50	-12.10
220.80000	QP	H	11.59	23.11	34.70	43.50	-8.80
259.70000	QP	H	11.82	26.78	38.60	46.00	-7.40
180.40000	QP	H	13.17	17.43	30.60	46.00	-15.40

Remark:

1. Corrected Level = Reading Level + Correction Factor
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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EUT : XI-305M (with Antenna 2)

Test Condition : Tx at middle channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
143.60000	QP	V	14.29	10.41	24.70	43.50	-18.80
185.70000	QP	V	13.55	8.95	22.50	43.50	-21.00
214.50000	QP	V	11.59	9.81	21.40	43.50	-22.10
220.20000	QP	V	11.82	10.98	22.80	46.00	-23.20
240.10000	QP	V	12.86	11.04	23.90	46.00	-22.10
259.80000	QP	V	13.17	8.23	21.40	46.00	-24.60
144.40000	QP	H	14.29	19.21	33.50	43.50	-10.00
180.40000	QP	H	13.55	18.35	31.90	43.50	-11.60
186.70000	QP	H	13.55	18.95	32.50	43.50	-11.00
215.80000	QP	H	11.59	23.51	35.10	43.50	-8.40
220.80000	QP	H	11.82	27.88	39.70	46.00	-6.30
259.70000	QP	H	13.17	19.43	32.60	46.00	-13.40

Remark:

1. Corrected Level = Reading Level + Correction Factor
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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EUT : XI-305M (with Antenna 2)

Test Condition : Tx at high channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
143.60000	QP	V	14.29	11.11	25.40	43.50	-18.10
185.70000	QP	V	13.55	7.85	21.40	43.50	-22.10
214.50000	QP	V	11.59	11.21	22.80	43.50	-20.70
220.20000	QP	V	11.82	11.78	23.60	46.00	-22.40
240.10000	QP	V	12.86	9.84	22.70	46.00	-23.30
259.80000	QP	V	13.17	9.43	22.60	46.00	-23.40
144.40000	QP	H	14.29	18.21	32.50	43.50	-11.00
180.40000	QP	H	13.55	19.85	33.40	43.50	-10.10
186.70000	QP	H	13.55	18.35	31.90	43.50	-11.60
215.80000	QP	H	11.59	23.11	34.70	43.50	-8.80
220.80000	QP	H	11.82	28.98	40.80	46.00	-5.20
259.70000	QP	H	13.17	22.43	35.60	46.00	-10.40

Remark:

1. Corrected Level = Reading Level + Correction Factor
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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EUT : XI-305M (with Antenna 3)

Test Condition : Tx at low channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
144.60000	QP	V	14.29	7.81	22.10	43.50	-21.40
188.40000	QP	V	13.55	8.05	21.60	43.50	-21.90
215.40000	QP	V	11.59	11.81	23.40	43.50	-20.10
220.50000	QP	V	11.82	15.28	27.10	46.00	-18.90
239.70000	QP	V	12.35	11.75	24.10	46.00	-21.90
260.10000	QP	V	13.32	10.58	23.90	46.00	-22.10
144.50000	QP	H	14.29	18.81	33.10	43.50	-10.40
180.20000	QP	H	13.55	16.25	29.80	43.50	-13.70
185.70000	QP	H	13.55	17.05	30.60	43.50	-12.90
216.30000	QP	H	11.59	22.01	33.60	46.00	-12.40
220.70000	QP	H	11.82	25.58	37.40	46.00	-8.60
260.10000	QP	H	13.32	19.28	32.60	46.00	-13.40

Remark:

1. Corrected Level = Reading Level + Correction Factor
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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EUT : XI-305M (with Antenna 3)

Test Condition : Tx at middle channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
144.60000	QP	V	14.29	8.81	23.10	43.50	-20.40
188.40000	QP	V	13.55	7.25	20.80	43.50	-22.70
215.40000	QP	V	11.59	12.51	24.10	43.50	-19.40
220.50000	QP	V	11.82	16.58	28.40	46.00	-17.60
239.70000	QP	V	12.35	13.25	25.60	46.00	-20.40
260.10000	QP	V	13.32	10.88	24.20	46.00	-21.80
144.50000	QP	H	14.29	19.11	33.40	43.50	-10.10
180.20000	QP	H	13.55	16.95	30.50	43.50	-13.00
185.70000	QP	H	13.55	17.85	31.40	43.50	-12.10
216.30000	QP	H	11.59	21.11	32.70	46.00	-13.30
220.70000	QP	H	11.82	25.08	36.90	46.00	-9.10
260.10000	QP	H	13.32	20.28	33.60	46.00	-12.40

Remark:

1. Corrected Level = Reading Level + Correction Factor
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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EUT : XI-305M (with Antenna 3)

Test Condition : Tx at high channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
144.60000	QP	V	14.29	7.81	22.10	43.50	-21.40
188.40000	QP	V	13.55	6.15	19.70	43.50	-23.80
215.40000	QP	V	11.59	12.01	23.60	43.50	-19.90
220.50000	QP	V	11.82	14.68	26.50	46.00	-19.50
239.70000	QP	V	12.35	12.45	24.80	46.00	-21.20
260.10000	QP	V	13.32	10.18	23.50	46.00	-22.50
144.50000	QP	H	14.29	18.11	32.40	43.50	-11.10
180.20000	QP	H	13.55	16.25	29.80	43.50	-13.70
185.70000	QP	H	13.55	16.85	30.40	43.50	-13.10
216.30000	QP	H	11.59	21.81	33.40	46.00	-12.60
220.70000	QP	H	11.82	23.78	35.60	46.00	-10.40
260.10000	QP	H	13.32	19.38	32.70	46.00	-13.30

Remark:

1. Corrected Level = Reading Level + Correction Factor
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



6.4.2 Measurement results: frequency above 1GHz

The radiated spurious emissions at

Frequency(MHz)	Margin
2038	-1.15
8152	-2.61

are less than uncertainty. This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : XI-305M (with Antenna 1)
Test Condition : Tx at low channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2038	PK	V	0	31.99	27.3	59.29	74	-14.71
2038	AV	V	0	31.99	20.86	52.85	54	-1.15
4076	PK	V	28.02	38.94	39.33	50.25	74	-23.75
4076	AV	V	28.02	38.94	28.83	39.75	54	-14.25
6114	PK	V	28.02	41.72	41.4	55.1	74	-18.9
6114	AV	V	28.02	41.72	29.88	43.58	54	-10.42
8152	PK	V	28.02	45.75	45.85	63.58	74	-10.42
8152	AV	V	28.02	45.75	33.66	51.39	54	-2.61
10190	PK	V	28.02	47.21	45.92	65.11	74	-8.89
10190	AV	V	28.02	47.21	30.25	49.44	54	-4.56
12228	PK	V	28.02	49.12	-	-	74	-
12228	AV	V	28.02	49.12	-	-	54	-
4824	PK	V	28.02	38.7	40.55	51.23	74	-22.77
4824	AV	V	28.02	38.7	30.87	41.55	54	-12.45
7236	PK	V	28.02	43.86	40.51	56.35	74	-17.65
7236	AV	V	28.02	43.86	31.29	47.13	54	-6.87
9648	PK	V	28.02	46.9	-	-	74	-
9648	AV	V	28.02	46.9	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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The radiated spurious emissions at

Frequency(MHz)	Margin
2038	-2.24

are less than uncertainty. This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : XI-305M (with Antenna 1)

Test Condition : Tx at low channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2038	PK	H	0	31.99	26.51	58.5	74	-15.5
2038	AV	H	0	31.99	19.77	51.76	54	-2.24
4076	PK	H	28.02	38.94	38.12	49.04	74	-24.96
4076	AV	H	28.02	38.94	27.66	38.58	54	-15.42
6114	PK	H	28.02	41.72	40.65	54.35	74	-19.65
6114	AV	H	28.02	41.72	29.14	42.84	54	-11.16
8152	PK	H	28.02	45.75	44.79	62.52	74	-11.48
8152	AV	H	28.02	45.75	32.05	49.78	54	-4.22
10190	PK	H	28.02	47.21	45.92	65.11	74	-8.89
10190	AV	H	28.02	47.21	30.25	49.44	54	-4.56
12228	PK	H	28.02	49.12	-	-	74	-
12228	AV	H	28.02	49.12	-	-	54	-
4824	PK	H	28.02	38.7	40.55	51.23	74	-22.77
4824	AV	H	28.02	38.7	30.87	41.55	54	-12.45
7236	PK	H	28.02	43.86	40.51	56.35	74	-17.65
7236	AV	H	28.02	43.86	31.29	47.13	54	-6.87
9648	PK	H	28.02	46.9	-	-	74	-
9648	AV	H	28.02	46.9	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-” means the emission is below the noise floor.



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The radiated spurious emissions at

Frequency(MHz)	Margin
2063	-2.54
8252	-1.91

are less than uncertainty. This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : XI-305M (with Antenna 1)

Test Condition : Tx at middle channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2063	PK	V	0	31.99	26.15	58.14	74	-15.86
2063	AV	V	0	31.99	19.47	51.46	54	-2.54
4126	PK	V	28.02	38.94	38.11	49.03	74	-24.97
4126	AV	V	28.02	38.94	28.14	39.06	54	-14.94
6189	PK	V	28.02	41.72	40.25	53.95	74	-20.05
6189	AV	V	28.02	41.72	28.75	42.45	54	-11.55
8252	PK	V	28.02	45.92	44.68	62.58	74	-11.42
8252	AV	V	28.02	45.92	34.19	52.09	54	-1.91
10315	PK	V	28.02	47.37	43.26	62.61	74	-11.39
10315	AV	V	28.02	47.37	30.74	50.09	54	-3.91
12378	PK	V	28.02	49.12	-	-	74	-
12378	AV	V	28.02	49.12	-	-	54	-
4874	PK	V	28.02	38.7	40.18	50.86	74	-23.14
4874	AV	V	28.02	38.7	31.01	41.69	54	-12.31
7311	PK	V	28.02	43.86	40.77	56.61	74	-17.39
7311	AV	V	28.02	43.86	30.02	45.86	54	-8.14
9748	PK	V	28.02	46.9	-	-	74	-
9748	AV	V	28.02	46.9	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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EUT : XI-305M (with Antenna 1)
 Test Condition : Tx at middle channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2063	PK	H	0	31.99	24.01	56	74	-18
2063	AV	H	0	31.99	18.41	50.4	54	-3.6
4126	PK	H	28.02	38.94	40.21	51.13	74	-22.87
4126	AV	H	28.02	38.94	30.52	41.44	54	-12.56
6189	PK	H	28.02	41.72	40.02	53.72	74	-20.28
6189	AV	H	28.02	41.72	30.87	44.57	54	-9.43
8252	PK	H	28.02	45.92	40.56	58.46	74	-15.54
8252	AV	H	28.02	45.92	29.71	47.61	54	-6.39
10315	PK	H	28.02	47.37	-	-	74	-
10315	AV	H	28.02	47.37	-	-	54	-
4874	PK	H	28.02	38.7	38.14	48.82	74	-25.18
4874	AV	H	28.02	38.7	27.66	38.34	54	-15.66
7311	PK	H	28.02	43.86	39.09	54.93	74	-19.07
7311	AV	H	28.02	43.86	28.79	44.63	54	-9.37
9748	PK	H	28.02	46.9	-	-	74	-
9748	AV	H	28.02	46.9	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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The radiated spurious emissions at

Frequency(MHz)	Margin
2088	-2.23
8352	-1.88
10440	-3.01

are less than uncertainty. This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : XI-305M (with Antenna 1)

Test Condition : Tx at high channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2088	PK	V	0	31.99	25.41	57.4	74	-16.6
2088	AV	V	0	31.99	19.78	51.77	54	-2.23
4176	PK	V	28.02	38.94	44.58	55.5	74	-18.5
4176	AV	V	28.02	38.94	32.05	42.97	54	-11.03
6264	PK	V	28.02	41.88	43.79	57.65	74	-16.35
6264	AV	V	28.02	41.88	31.66	45.52	54	-8.48
8352	PK	V	28.02	45.92	44.78	62.68	74	-11.32
8352	AV	V	28.02	45.92	34.22	52.12	54	-1.88
10440	PK	V	28.02	47.43	44.01	63.42	74	-10.58
10440	AV	V	28.02	47.43	31.58	50.99	54	-3.01
12528	PK	V	28.02	48.86	-	-	74	-
12528	AV	V	28.02	48.86	-	-	54	-
4924	PK	V	28.02	38.7	39.84	50.52	74	-23.48
4924	AV	V	28.02	38.7	31.05	41.73	54	-12.27
7386	PK	V	28.02	43.86	40.88	56.72	74	-17.28
7386	AV	V	28.02	43.86	29.87	45.71	54	-8.29
9848	PK	V	28.02	46.88	-	-	74	-
9848	AV	V	28.02	46.88	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-” means the emission is below the noise floor.



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EUT : XI-305M (with Antenna 1)
Test Condition : Tx at high channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2088	PK	H	0	31.99	27.44	59.43	74	-14.57
2088	AV	H	0	31.99	18.75	50.74	54	-3.26
4176	PK	H	28.02	38.94	41.05	51.97	74	-22.03
4176	AV	H	28.02	38.94	29.97	40.89	54	-13.11
6264	PK	H	28.02	41.88	42.65	56.51	74	-17.49
6264	AV	H	28.02	41.88	30.01	43.87	54	-10.13
8352	PK	H	28.02	45.92	42.08	59.98	74	-14.02
8352	AV	H	28.02	45.92	31.02	48.92	54	-5.08
10440	PK	H	28.02	47.43	-	-	74	-
10440	AV	H	28.02	47.43	-	-	54	-
4924	PK	H	28.02	38.7	42.88	53.56	74	-20.44
4924	AV	H	28.02	38.7	30.74	41.42	54	-12.58
7386	PK	H	28.02	43.86	42.01	57.85	74	-16.15
7386	AV	H	28.02	43.86	30.61	46.45	54	-7.55
9848	PK	H	28.02	46.88	-	-	74	-
9848	AV	H	28.02	46.88	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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The radiated spurious emissions at

Frequency(MHz)	Margin
2038	-0.36
8152	-2.53
10190	-2.76

are less than uncertainty. This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : XI-305M (with Antenna 2)

Test Condition : Tx at low channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2038	PK	V	0	31.99	28.24	60.23	74	-13.77
2038	AV	V	0	31.99	21.65	53.64	54	-0.36
4076	PK	V	28.02	38.94	41.55	52.47	74	-21.53
4076	AV	V	28.02	38.94	30.15	41.07	54	-12.93
6114	PK	V	28.02	41.72	38.74	52.44	74	-21.56
6114	AV	V	28.02	41.72	29.29	42.99	54	-11.01
8152	PK	V	28.02	45.75	45.76	63.49	74	-10.51
8152	AV	V	28.02	45.75	33.74	51.47	54	-2.53
10190	PK	V	28.02	47.21	43.49	62.68	74	-11.32
10190	AV	V	28.02	47.21	32.05	51.24	54	-2.76
12228	PK	V	28.02	49.12	-	-	74	-
12228	AV	V	28.02	49.12	-	-	54	-
4824	PK	V	28.02	38.7	41.71	52.39	74	-21.61
4284	AV	V	28.02	39.1	29.88	40.96	54	-13.04
7236	PK	V	28.02	43.86	42.07	57.91	74	-16.09
7236	AV	V	28.02	43.86	30.28	46.12	54	-7.88
9648	PK	V	28.02	46.9	-	-	74	-
9648	AV	V	28.02	46.9	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-” means the emission is below the noise floor.



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The radiated spurious emissions at

Frequency(MHz)	Margin
2038	-1.5

are less than uncertainty. This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : XI-305M (with Antenna 2)

Test Condition : Tx at low channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2038	PK	H	0	31.99	28.11	60.1	74	-13.9
2038	AV	H	0	31.99	20.51	52.5	54	-1.5
4076	PK	H	28.02	38.94	40.05	50.97	74	-23.03
4076	AV	H	28.02	38.94	29.51	40.43	54	-13.57
6114	PK	H	28.02	41.72	40.91	54.61	74	-19.39
6114	AV	H	28.02	41.72	30.88	44.58	54	-9.42
8152	PK	H	28.02	45.75	44.71	62.44	74	-11.56
8152	AV	H	28.02	45.75	32.09	49.82	54	-4.18
10190	PK	H	28.02	47.21	41.57	60.76	74	-13.24
10190	AV	H	28.02	47.21	31.22	50.41	54	-3.59
12228	PK	H	28.02	49.12	-	-	74	-
12228	AV	H	28.02	49.12	-	-	54	-
4824	PK	H	28.02	38.7	40.17	50.85	74	-23.15
4284	AV	H	28.02	39.1	30.58	41.66	54	-12.34
7236	PK	H	28.02	43.86	42.01	57.85	74	-16.15
7236	AV	H	28.02	43.86	29.71	45.55	54	-8.45
9648	PK	H	28.02	46.9	-	-	74	-
9648	AV	H	28.02	46.9	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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The radiated spurious emissions at

Frequency(MHz)	Margin
2063	-0.72
8252	-1.9

are less than uncertainty. This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : XI-305M (with Antenna 2)

Test Condition : Tx at middle channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2063	PK	V	0	31.99	27.2	59.19	74	-14.81
2063	AV	V	0	31.99	21.29	53.28	54	-0.72
4126	PK	V	28.02	38.94	38.75	49.67	74	-24.33
4126	AV	V	28.02	38.94	27.04	37.96	54	-16.04
6189	PK	V	28.02	41.72	40.25	53.95	74	-20.05
6189	AV	V	28.02	41.72	29.52	43.22	54	-10.78
8252	PK	V	28.02	45.92	45.09	62.99	74	-11.01
8252	AV	V	28.02	45.92	34.2	52.1	54	-1.9
10315	PK	V	28.02	47.37	40.75	60.1	74	-13.9
10315	AV	V	28.02	47.37	31.28	50.63	54	-3.37
12378	PK	V	28.02	49.12	-	-	74	-
12378	AV	V	28.02	49.12	-	-	54	-
4874	PK	V	28.02	38.7	40.47	51.15	74	-22.85
4874	AV	V	28.02	38.7	29.1	39.78	54	-14.22
7311	PK	V	28.02	43.86	41.22	57.06	74	-16.94
7311	AV	V	28.02	43.86	30.9	46.74	54	-7.26
9748	PK	V	28.02	46.9	-	-	74	-
9748	AV	V	28.02	46.9	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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The radiated spurious emissions at

Frequency(MHz)	Margin
2063	-2
10315	-3.06

are less than uncertainty. This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : XI-305M (with Antenna 2)

Test Condition : Tx at middle channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2063	PK	H	0	31.99	27.4	59.39	74	-14.61
2063	AV	H	0	31.99	20.01	52	54	-2
4126	PK	H	28.02	38.94	38.05	48.97	74	-25.03
4126	AV	H	28.02	38.94	27.29	38.21	54	-15.79
6189	PK	H	28.02	41.72	41.28	54.98	74	-19.02
6189	AV	H	28.02	41.72	29.99	43.69	54	-10.31
8252	PK	H	28.02	45.92	41.54	59.44	74	-14.56
8252	AV	H	28.02	45.92	31.03	48.93	54	-5.07
10315	PK	H	28.02	47.37	41.45	60.8	74	-13.2
10315	AV	H	28.02	47.37	31.59	50.94	54	-3.06
12378	PK	H	28.02	49.12	-	-	74	-
12378	AV	H	28.02	49.12	-	-	54	-
4874	PK	H	28.02	38.7	38.99	49.67	74	-24.33
4874	AV	H	28.02	38.7	29.32	40	54	-14
7311	PK	H	28.02	43.86	41.41	57.25	74	-16.75
7311	AV	H	28.02	43.86	30.83	46.67	54	-7.33
9748	PK	H	28.02	46.9	-	-	74	-
9748	AV	H	28.02	46.9	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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The radiated spurious emissions at

Frequency(MHz)	Margin
2088	-1.22
8352	-0.19
10440	-2.63

are less than uncertainty. This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : XI-305M (with Antenna 2)

Test Condition : Tx at high channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2088	PK	V	0	31.99	28.17	60.16	74	-13.84
2088	AV	V	0	31.99	22.02	52.78	54	-1.22
4176	PK	V	28.02	38.94	39.6	50.52	74	-23.48
4176	AV	V	28.02	38.94	29.65	40.57	54	-13.43
6264	PK	V	28.02	41.88	41.05	54.91	74	-19.09
6264	AV	V	28.02	41.88	30.21	44.07	54	-9.93
8352	PK	V	28.02	45.92	46.71	64.61	74	-9.39
8352	AV	V	28.02	45.92	35.91	53.81	54	-0.19
10440	PK	V	28.02	47.43	43.35	62.76	74	-11.24
10440	AV	V	28.02	47.43	31.96	51.37	54	-2.63
12528	PK	V	28.02	48.86	-	-	74	-
12528	AV	V	28.02	48.86	-	-	54	-
4924	PK	V	28.02	38.7	40.25	50.93	74	-23.07
4924	AV	V	28.02	38.7	29.77	40.45	54	-13.55
7386	PK	V	28.02	43.86	41.71	57.55	74	-16.45
7386	AV	V	28.02	43.86	30.15	45.99	54	-8.01
9848	PK	V	28.02	46.88	-	-	74	-
9848	AV	V	28.02	46.88	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-” means the emission is below the noise floor.



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The radiated spurious emissions at

Frequency(MHz)	Margin
2088	-1.49
10440	-3.05

are less than uncertainty. This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : XI-305M (with Antenna 2)

Test Condition : Tx at high channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2088	PK	H	0	31.99	27.57	59.56	74	-14.44
2088	AV	H	0	31.99	20.52	52.51	54	-1.49
4176	PK	H	28.02	38.94	40.17	51.09	74	-22.91
4176	AV	H	28.02	38.94	29.39	40.31	54	-13.69
6264	PK	H	28.02	41.88	41.22	55.08	74	-18.92
6264	AV	H	28.02	41.88	30.04	43.9	54	-10.1
8352	PK	H	28.02	45.92	42.57	60.47	74	-13.53
8352	AV	H	28.02	45.92	31.58	49.48	54	-4.52
10440	PK	H	28.02	47.43	43.08	62.49	74	-11.51
10440	AV	H	28.02	47.43	31.54	50.95	54	-3.05
12528	PK	H	28.02	48.86	-	-	74	-
12528	AV	H	28.02	48.86	-	-	54	-
4924	PK	H	28.02	38.7	42.05	52.73	74	-21.27
4924	AV	H	28.02	38.7	29.57	40.25	54	-13.75
7386	PK	H	28.02	43.86	40.17	56.01	74	-17.99
7386	AV	H	28.02	43.86	29.75	45.59	54	-8.41
9848	PK	H	28.02	46.88	-	-	74	-
9848	AV	H	28.02	46.88	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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The radiated spurious emissions at

Frequency(MHz)	Margin
2038	-2.6
10190	-2.91

are less than uncertainty. This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : XI-305M (with Antenna 3)

Test Condition : Tx at low channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2038	PK	V	0	31.99	27.07	59.06	74	-14.94
2038	AV	V	0	31.99	19.41	51.4	54	-2.6
4076	PK	V	28.02	38.94	43.07	53.99	74	-20.01
4076	AV	V	28.02	38.94	31.6	42.52	54	-11.48
6114	PK	V	28.02	41.72	40.54	54.24	74	-19.76
6114	AV	V	28.02	41.72	29.96	43.66	54	-10.34
8152	PK	V	28.02	45.75	44.02	61.75	74	-12.25
8152	AV	V	28.02	45.75	33.09	50.82	54	-3.18
10190	PK	V	28.02	47.21	43.39	62.58	74	-11.42
10190	AV	V	28.02	47.21	31.9	51.09	54	-2.91
12228	PK	V	28.02	49.12	-	-	74	-
12228	AV	V	28.02	49.12	-	-	54	-
4824	PK	V	28.02	38.7	44.17	54.85	74	-19.15
4824	AV	V	28.02	38.7	29.61	40.29	54	-13.71
7236	PK	V	28.02	43.86	41.22	57.06	74	-16.94
7236	AV	V	28.02	43.86	30.51	46.35	54	-7.65
9648	PK	V	28.02	46.9	-	-	74	-
9648	AV	V	28.02	46.9	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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The radiated spurious emissions at

Frequency(MHz)	Margin
2038	-2.48

are less than uncertainty. This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : XI-305M (with Antenna 3)

Test Condition : Tx at low channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2038	PK	H	0	31.99	26.01	58	74	-16
2038	AV	H	0	31.99	19.53	51.52	54	-2.48
4076	PK	H	28.02	38.94	41.16	52.08	74	-21.92
4076	AV	H	28.02	38.94	30.42	41.34	54	-12.66
6114	PK	H	28.02	41.72	40.8	54.5	74	-19.5
6114	AV	H	28.02	41.72	29.4	43.1	54	-10.9
8152	PK	H	28.02	45.75	40.58	58.31	74	-15.69
8152	AV	H	28.02	45.75	31.23	48.96	54	-5.04
10190	PK	H	28.02	47.21	-	-	74	-
10190	AV	H	28.02	47.21	-	-	54	-
4824	PK	H	28.02	38.7	40.05	50.73	74	-23.27
4824	AV	H	28.02	38.7	29.19	39.87	54	-14.13
7236	PK	H	28.02	43.86	41.25	57.09	74	-16.91
7236	AV	H	28.02	43.86	30.52	46.36	54	-7.64
9648	PK	H	28.02	46.9	-	-	74	-
9648	AV	H	28.02	46.9	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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The radiated spurious emissions at

Frequency(MHz)	Margin
2063	-1.46
8252	-0.64
10315	-2.94

are less than uncertainty. This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : XI-305M (with Antenna 3)

Test Condition : Tx at middle channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2063	PK	V	0	31.99	27.58	59.57	74	-14.43
2063	AV	V	0	31.99	20.55	52.54	54	-1.46
4126	PK	V	28.02	38.94	40.03	50.95	74	-23.05
4126	AV	V	28.02	38.94	28.77	39.69	54	-14.31
6189	PK	V	28.02	41.72	39.72	53.42	74	-20.58
6189	AV	V	28.02	41.72	29.78	43.48	54	-10.52
8252	PK	V	28.02	45.92	44.17	62.07	74	-11.93
8252	AV	V	28.02	45.92	35.46	53.36	54	-0.64
10315	PK	V	28.02	47.37	42.25	61.6	74	-12.4
10315	AV	V	28.02	47.37	31.71	51.06	54	-2.94
12378	PK	V	28.02	49.12	-	-	74	-
12378	AV	V	28.02	49.12	-	-	54	-
4874	PK	V	28.02	38.7	41.85	52.53	74	-21.47
4874	AV	V	28.02	38.7	30.42	41.1	54	-12.9
7311	PK	V	28.02	43.86	41.55	57.39	74	-16.61
7311	AV	V	28.02	43.86	30.15	45.99	54	-8.01
9748	PK	V	28.02	46.9	-	-	74	-
9748	AV	V	28.02	46.9	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-” means the emission is below the noise floor.



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EUT : XI-305M (with Antenna 3)
 Test Condition : Tx at middle channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2063	PK	H	0	31.99	25.81	57.8	74	-16.2
2063	AV	H	0	31.99	17.04	49.03	54	-4.97
4126	PK	H	28.02	38.94	39.55	50.47	74	-23.53
4126	AV	H	28.02	38.94	29.23	40.15	54	-13.85
6189	PK	H	28.02	41.72	40.05	53.75	74	-20.25
6189	AV	H	28.02	41.72	29.9	43.6	54	-10.4
8252	PK	H	28.02	45.92	41.83	59.73	74	-14.27
8252	AV	H	28.02	45.92	31.26	49.16	54	-4.84
10315	PK	H	28.02	47.37	-	-	74	-
10315	AV	H	28.02	47.37	-	-	54	-
4874	PK	H	28.02	38.7	39.25	49.93	74	-24.07
4874	AV	H	28.02	38.7	28.76	39.44	54	-14.56
7311	PK	H	28.02	43.86	40.01	55.85	74	-18.15
7311	AV	H	28.02	43.86	29.88	45.72	54	-8.28
9748	PK	H	28.02	46.9	-	-	74	-
9748	AV	H	28.02	46.9	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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The radiated spurious emissions at

Frequency(MHz)	Margin
8352	-0.65
10440	-2.17

are less than uncertainty. This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : XI-305M (with Antenna 3)

Test Condition : Tx at high channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2088	PK	V	0	31.99	26.31	58.3	74	-15.7
2088	AV	V	0	31.99	18.34	50.33	54	-3.67
4176	PK	V	28.02	38.94	43.25	54.17	74	-19.83
4176	AV	V	28.02	38.94	31.45	42.37	54	-11.63
6264	PK	V	28.02	41.88	44.16	58.02	74	-15.98
6264	AV	V	28.02	41.88	30.46	44.32	54	-9.68
8352	PK	V	28.02	45.92	45.06	62.96	74	-11.04
8352	AV	V	28.02	45.92	35.45	53.35	54	-0.65
10440	PK	V	28.02	47.43	45.42	64.83	74	-9.17
10440	AV	V	28.02	47.43	32.42	51.83	54	-2.17
12528	PK	V	28.02	48.86	-	-	74	-
12528	AV	V	28.02	48.86	-	-	54	-
4924	PK	V	28.02	38.7	40.87	51.55	74	-22.45
4924	AV	V	28.02	38.7	30.29	40.97	54	-13.03
7386	PK	V	28.02	43.86	41.01	56.85	74	-17.15
7386	AV	V	28.02	43.86	30.11	45.95	54	-8.05
9848	PK	V	28.02	46.88	-	-	74	-
9848	AV	V	28.02	46.88	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



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EUT : XI-305M (with Antenna 3)
 Test Condition : Tx at high channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
2088	PK	H	0	31.99	26.54	58.53	74	-15.47
2088	AV	H	0	31.99	17.96	49.95	54	-4.05
4176	PK	H	28.02	38.94	42.08	53	74	-21
4176	AV	H	28.02	38.94	30.29	41.21	54	-12.79
6264	PK	H	28.02	41.88	43.08	56.94	74	-17.06
6264	AV	H	28.02	41.88	29.78	43.64	54	-10.36
8352	PK	H	28.02	45.92	41.99	59.89	74	-14.11
8352	AV	H	28.02	45.92	30.89	48.79	54	-5.21
10440	PK	H	28.02	47.43	-	-	74	-
10440	AV	H	28.02	47.43	-	-	54	-
4924	PK	H	28.02	38.7	43.04	53.72	74	-20.28
4924	AV	H	28.02	38.7	29.61	40.29	54	-13.71
7386	PK	H	28.02	43.86	43.87	59.71	74	-14.29
7386	AV	H	28.02	43.86	30.29	46.13	54	-7.87
9848	PK	H	28.02	46.88	-	-	74	-
9848	AV	H	28.02	46.88	-	-	54	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor.



7. Power Spectrum Density test

7.1 Operating environment

Temperature: 25 °C
Relative Humidity: 62 %

7.2 Test setup & procedure

The power spectrum density per FCC § 15.247(d) was measured from the antenna port of the EUT using a 50ohm spectrum analyzer with the resolution bandwidth set at 3kHz, the video bandwidth set at 30kHz, a span of 1.5 MHz, and the sweep time set at 500 seconds. Power Density was read directly and cable loss (1dB) correction was added to the reading to obtain power at the EUT antenna terminals. The test was performed at 3 channels (lowest, middle and highest channel). The Power Spectral Density measured result is in the following table.

See Power Spectrum Density plot as file name “Power Spectrum Density plot.pdf”

7.3 Measured data of Power Spectrum Density test results

Test Condition: Connector A

Channel	Frequency (MHz)	Measured level (dBm)	Limit (dBm)
Low	2411.776	-19.99	8
Middle	2437.211	-21.75	8
High	2462.211	-24.86	8

Test Condition: Connector B

Channel	Frequency (MHz)	Measured level (dBm)	Limit (dBm)
Low	2143.514	-15.24	8
Middle	2436.776	-16.83	8
High	2462.211	-18.53	8



8. Emission on the band edge §FCC 15.247(C)

8.1 Operating environment

Temperature: 24 °C
Relative Humidity: 65 %

8.2 Test setup & procedure

In any 100kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

See band-edge plot as file name “Band-edge plot.pdf”.

8.3 Measured data of the emission on the band edge

Test Condition: Connector A

Channel	Spurious Emission at 2310~2390MHz		Delta value (dB)	Limit (dB)
Low	Frequency (MHz)	Level (dBm)	-29.01	20
	2399.676	-26.59		
Channel	Spurious Emission at 2483.5~2500MHz		Delta value (dBm)	Limit (dB)
High	Frequency (MHz)	Level (dBm)	-41.80	20
	2484.262	-43.96		



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Test Condition: Connector B

Channel	Spurious Emission at 2310~2390MHz		Delta value (dB)	Limit (dB)
Low	Frequency (MHz)	Level (dBm)	-28.76	20
	2399.888	-21.83		
Channel	Spurious Emission at 2483.5~2500MHz		Delta value (dBm)	Limit (dB)
High	Frequency (MHz)	Level (dBm)	-40.92	20
	2483.574	-36.48		

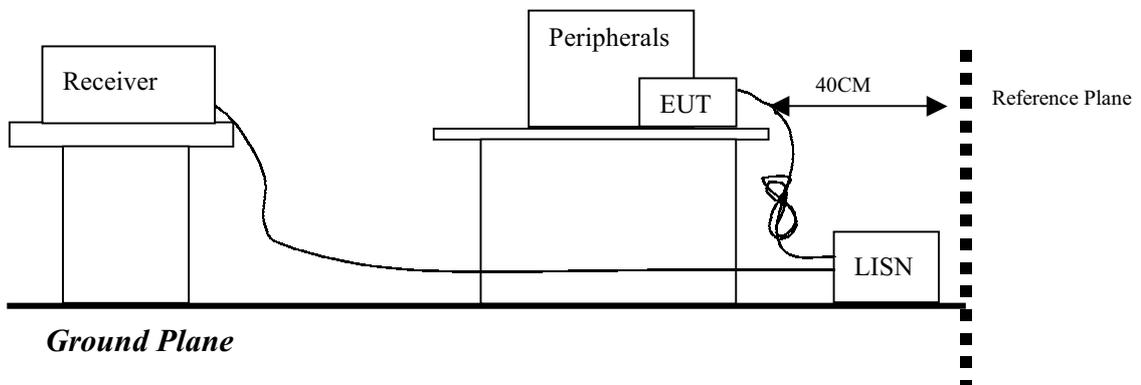


9. Power Line Conducted Emission test §FCC 15.207

9.1 Operating environment

Temperature: 25 °C
Relative Humidity: 62 %

9.2 Test setup & procedure



The EUT are connected to the main power through a line impedance stabilization network (LISN). This provides a 50 ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. Both sides (Line and Neutral) of AC line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4/1992 on conducted measurement. The bandwidth of the field strength meter (R & S Test Receiver ESCS 30) is set at 9kHz.

See Power Line Conducted Emission plot as file name “Power Line Conducted Emission plot.pdf”.

Emission Limit

FCC Part 15 Paragraph 15.207		
Freq. (MHz)	Maximum RF Line Voltage	
	uV	dBuV
0.45 - 30	250	48.0



9.3 Power Line Conducted Emission test data

EUT : XI-305M (with Antenna 1)

Test Condition : Tx at low channel

Power Line (circle)	Freq. (MHz)	Reading (dB μ V) QP	Limit (dB μ V) QP	Margin (dB) QP
LINE	0.47400	30.6	48.00	-17.40
LINE	2.17000	27.2	48.00	-20.80
LINE	2.98600	27.1	48.00	-20.90
LINE	5.83400	21.8	48.00	-26.20
LINE	13.09000	19.6	48.00	-28.40
LINE	29.75400	20.4	48.00	-27.60
NEUTRAL	0.47400	31.7	48.00	-16.30
NEUTRAL	0.61000	26.0	48.00	-22.00
NEUTRAL	3.32200	27.7	48.00	-20.30
NEUTRAL	5.83400	19.2	48.00	-28.80
NEUTRAL	13.97000	17.8	48.00	-30.20
NEUTRAL	29.89800	18.0	48.00	-30.00

Remark:

1. The reading value including cable loss and LISN factor.
2. Uncertainty was calculated in accordance with NAMAS NIS 81.

Expanded uncertainty (k=2) of conducted emission measurement is ± 2.6 dB.



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EUT : XI-305M (with Antenna 1)

Test Condition : Tx at middle channel

Power Line (circle)	Freq. (MHz)	Reading (dB μ V) QP	Limit (dB μ V) QP	Margin (dB) QP
LINE	0.47400	29.6	48.00	-18.40
LINE	2.77800	27.8	48.00	-20.20
LINE	3.32200	26.8	48.00	-21.20
LINE	5.82600	21.7	48.00	-26.30
LINE	12.60200	18.5	48.00	-29.50
LINE	28.86600	18.1	48.00	-29.90
NEUTRAL	0.47400	29.6	48.00	-18.40
NEUTRAL	2.77800	27.8	48.00	-20.20
NEUTRAL	3.32200	26.8	48.00	-21.20
NEUTRAL	5.82600	21.7	48.00	-26.30
NEUTRAL	12.60200	18.5	48.00	-29.50
NEUTRAL	28.86600	18.1	48.00	-29.90

Remark:

1. The reading value included cable loss and LISN factor.
2. Uncertainty was calculated in accordance with NAMAS NIS 81.

Expanded uncertainty (k=2) of conducted emission measurement is ± 2.6 dB.



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EUT : XI-305M (with Antenna 1)

Test Condition : Tx at high channel

Power Line (circle)	Freq. (MHz)	Reading (dB μ V) QP	Limit (dB μ V) QP	Margin (dB) QP
LINE	0.47400	29.6	48.00	-18.40
LINE	2.50600	28.2	48.00	-19.80
LINE	2.84200	26.8	48.00	-21.20
LINE	5.82600	22.2	48.00	-25.80
LINE	13.95400	17.0	48.00	-31.00
LINE	29.15400	20.2	48.00	-27.80
NEUTRAL	0.47400	31.2	48.00	-16.80
NEUTRAL	1.49000	27.1	48.00	-20.90
NEUTRAL	2.97800	27.8	48.00	-20.20
NEUTRAL	5.69000	21.8	48.00	-26.20
NEUTRAL	13.27400	17.3	48.00	-30.70
NEUTRAL	29.46600	19.9	48.00	-28.10

Remark:

1. The reading value included cable loss and LISN factor.
2. Uncertainty was calculated in accordance with NAMAS NIS 81.

Expanded uncertainty (k=2) of conducted emission measurement is ± 2.6 dB.



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EUT : XI-305M (with Antenna 2)

Test Condition : Tx at low channel

Power Line (circle)	Freq. (MHz)	Reading (dB μ V) QP	Limit (dB μ V) QP	Margin (dB) QP
LINE	0.47400	32.9	48.00	-15.10
LINE	0.61000	31.3	48.00	-16.70
LINE	1.49000	30.9	48.00	-17.10
LINE	1.89800	31.6	48.00	-16.40
LINE	2.50600	30.5	48.00	-17.50
LINE	3.05000	29.7	48.00	-18.30
NEUTRAL	0.47400	33.1	48.00	-14.90
NEUTRAL	0.61000	30.0	48.00	-18.00
NEUTRAL	1.49000	30.9	48.00	-17.10
NEUTRAL	1.89800	31.4	48.00	-16.60
NEUTRAL	2.50600	30.5	48.00	-17.50
NEUTRAL	3.52200	28.3	48.00	-19.70

Remark:

1. The reading value including cable loss and LISN factor.
2. Uncertainty was calculated in accordance with NAMAS NIS 81.

Expanded uncertainty (k=2) of conducted emission measurement is ± 2.6 dB.



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EUT : XI-305M (with Antenna 2)

Test Condition : Tx at middle channel

Power Line (circle)	Freq. (MHz)	Reading (dB μ V) QP	Limit (dB μ V) QP	Margin (dB) QP
LINE	0.47400	32.7	48.00	-15.30
LINE	0.61000	31.1	48.00	-16.90
LINE	1.49000	30.8	48.00	-17.20
LINE	2.03400	31.0	48.00	-17.00
LINE	2.64200	30.0	48.00	-18.00
LINE	3.18600	29.4	48.00	-18.60
NEUTRAL	0.47400	33.2	48.00	-14.80
NEUTRAL	0.61000	30.0	48.00	-18.00
NEUTRAL	1.49000	30.8	48.00	-17.20
NEUTRAL	2.03400	31.0	48.00	-17.00
NEUTRAL	2.77800	30.2	48.00	-17.80
NEUTRAL	2.97800	28.0	48.00	-20.00

Remark:

1. The reading value included cable loss and LISN factor.
2. Uncertainty was calculated in accordance with NAMAS NIS 81.

Expanded uncertainty (k=2) of conducted emission measurement is ± 2.6 dB.



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EUT : XI-305M (with Antenna 2)

Test Condition : Tx at high channel

Power Line (circle)	Freq. (MHz)	Reading (dB μ V) QP	Limit (dB μ V) QP	Margin (dB) QP
LINE	0.47400	32.8	48.00	-15.20
LINE	0.61000	31.2	48.00	-16.80
LINE	1.35400	30.4	48.00	-17.60
LINE	2.64200	30.0	48.00	-18.00
LINE	3.32200	28.9	48.00	-19.10
LINE	26.69800	18.6	48.00	-29.40
NEUTRAL	0.47400	33.3	48.00	-14.70
NEUTRAL	0.61000	30.1	48.00	-17.90
NEUTRAL	2.44200	30.0	48.00	-18.00
NEUTRAL	5.76200	22.5	48.00	-25.50
NEUTRAL	13.97000	18.1	48.00	-29.90
NEUTRAL	26.72200	20.6	48.00	-27.40

Remark:

1. The reading value included cable loss and LISN factor.
2. Uncertainty was calculated in accordance with NAMAS NIS 81.

Expanded uncertainty (k=2) of conducted emission measurement is ± 2.6 dB.



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EUT : XI-305M (with Antenna 3)

Test Condition : Tx at low channel

Power Line (circle)	Freq. (MHz)	Reading (dB μ V) QP	Limit (dB μ V) QP	Margin (dB) QP
LINE	0.47400	34.3	48.00	-13.70
LINE	0.54600	25.7	48.00	-22.30
LINE	1.83400	28.8	48.00	-19.20
LINE	2.85000	29.3	48.00	-18.70
LINE	3.53000	28.3	48.00	-19.70
LINE	19.01000	22.2	48.00	-25.80
NEUTRAL	0.47400	32.5	48.00	-15.50
NEUTRAL	0.53800	26.2	48.00	-21.80
NEUTRAL	2.17000	30.1	48.00	-17.90
NEUTRAL	2.85000	29.2	48.00	-18.80
NEUTRAL	19.40200	24.3	48.00	-23.70
NEUTRAL	24.21800	21.7	48.00	-26.30

Remark:

1. The reading value including cable loss and LISN factor.
2. Uncertainty was calculated in accordance with NAMAS NIS 81.

Expanded uncertainty (k=2) of conducted emission measurement is ± 2.6 dB.



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EUT : XI-305M (with Antenna 3)

Test Condition : Tx at middle channel

Power Line (circle)	Freq. (MHz)	Reading (dB μ V) QP	Limit (dB μ V) QP	Margin (dB) QP
LINE	0.47400	32.8	48.00	-15.20
LINE	0.53800	24.1	48.00	-23.90
LINE	2.30600	29.9	48.00	-18.10
LINE	2.85000	28.4	48.00	-19.60
LINE	3.18600	30.5	48.00	-17.50
LINE	27.25800	19.9	48.00	-28.10
NEUTRAL	0.47400	32.1	48.00	-15.90
NEUTRAL	0.61000	29.8	48.00	-18.20
NEUTRAL	2.03400	30.8	48.00	-17.20
NEUTRAL	2.77800	29.2	48.00	-18.80
NEUTRAL	3.18600	29.6	48.00	-18.40
NEUTRAL	19.12200	27.3	48.00	-20.70

Remark:

1. The reading value included cable loss and LISN factor.
2. Uncertainty was calculated in accordance with NAMAS NIS 81.

Expanded uncertainty (k=2) of conducted emission measurement is ± 2.6 dB.



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EUT : XI-305M (with Antenna 3)

Test Condition : Tx at high channel

Power Line (circle)	Freq. (MHz)	Reading (dB μ V) QP	Limit (dB μ V) QP	Margin (dB) QP
LINE	0.47400	32.7	48.00	-15.30
LINE	0.61000	29.6	48.00	-18.40
LINE	1.89800	31.2	48.00	-16.80
LINE	2.50600	30.6	48.00	-17.40
LINE	3.18600	30.5	48.00	-17.50
LINE	19.38600	26.0	48.00	-22.00
NEUTRAL	0.47400	32.1	48.00	-15.90
NEUTRAL	0.61000	30.4	48.00	-17.60
NEUTRAL	2.03400	31.4	48.00	-16.60
NEUTRAL	2.64200	30.3	48.00	-17.70
NEUTRAL	3.18600	30.4	48.00	-17.60
NEUTRAL	19.25000	25.9	48.00	-22.10

Remark:

1. The reading value included cable loss and LISN factor.
2. Uncertainty was calculated in accordance with NAMAS NIS 81.

Expanded uncertainty (k=2) of conducted emission measurement is ± 2.6 dB.