Hong Kong

FCC – Test report

Report Number	:	**60/760.11.223.02**	Date of Issue:	1 March 2012
Model	:	**Joule 2.0**		
Product Type	:	GPS Bike Computer		
Applicant	:	Dayton Industrial Co. Ltd.		
Address	:	2-12 Kwai Fat Road, 11-A Kwai Chung, N.T. Hong Kong		
Production Facility	:	Kendy Enterprise Ltd.		
Address	:	2-12 Kwai Fat Road, 11-A Kwai Chung, N.T. Hong Kong		
Test Result	:	■ **Positive** ☐ **Negative**		
Total pages including Appendices	:	61		

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TÜV SÜD Hong Kong Ltd. reports apply only to the specific samples tested under stated test conditions. Construction of the actual test samples has been documented. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. The manufacturer/importer is responsible to the Competent Authorities in Europe for any modifications made to the production units which result in non-compliance to the relevant regulations. TÜV SÜD Hong Kong Ltd. shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV SÜD Hong Kong Ltd. issued reports.

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Hong Kong

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2 Details about the Test Laboratory

Details about the Test Laboratory

Company name: TÜV SÜD HONG KONG LTD.
3/F, West Wing, Lakeside 2,
10 Science Park West Avenue,
Science Park, Shatin
HK.

Telephone: 852 2776 1323
Fax: 852 2776 1372

Test site

Company name: Neutron Engineering Inc.
3,Jinshagang 1st Road,
ShiXia, Dalang Town,
DongGuan, China

FCC Registered Test Site Number 319330

3 Description of the Equipment Under Test

Description of the Equipment Under Test

Product:	GPS Bike Computer
Model no.:	Joule 2.0
Serial number:	NIL
Options and accessories:	NIL
Rated Voltage:	5 VDC (USB)
Rated Current:	NIL
Rated Power:	NIL
Frequency:	NIL
Description of the EUT:	EUT Main unit size: 7cm x 4.5 cm x 2 cm Operate by USB 5 V and rechargable battery (1 x 3.7 VDC 750mAh 2.7 wh Rechargable battery)
FCC ID:	O4GJOULE2
Conduct peak power:	0.426mW

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4 Summary of Test Standards and Results

Emission Tests						
Test Condition	Test Requirement	Test Method	Pages	Test Result		
				Pass	Fail	N/A
Radiated Emission (Fundamental & Spurious Emission)	FCC Part 15 Section 15.249 & 15.209	ANSI C63.4:2003	7-50	☒	☐	☐
Conducted Emission on AC 150kHz to 30MHz	FCC Part 15 Section 15.207	ANSI C63.4:2003	51-53	☒	☐	☐

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5 General Remarks

Remarks
NIL

SUMMARY:

All tests according to the regulations cited on page 5 were

■ - Performed

☐ - **Not** Performed

The Equipment Under Test

■ - **Fulfills** the general approval requirements.

☐ - **Does not** fulfill the general approval requirements.

Sample Received Date:	26 September 2011
Testing Start Date:	26 September 2011
Testing End Date:	01 February 2012

- TÜV SÜD HONG KONG LTD. -

Reviewed by:

Edmond FUNG
EMC Test Engineer

Prepared by:

Cheng Kin Yeung
EMC Test Engineer

6 Emission Test Results

6.1 Radiated Emission Test (Fundamental)

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

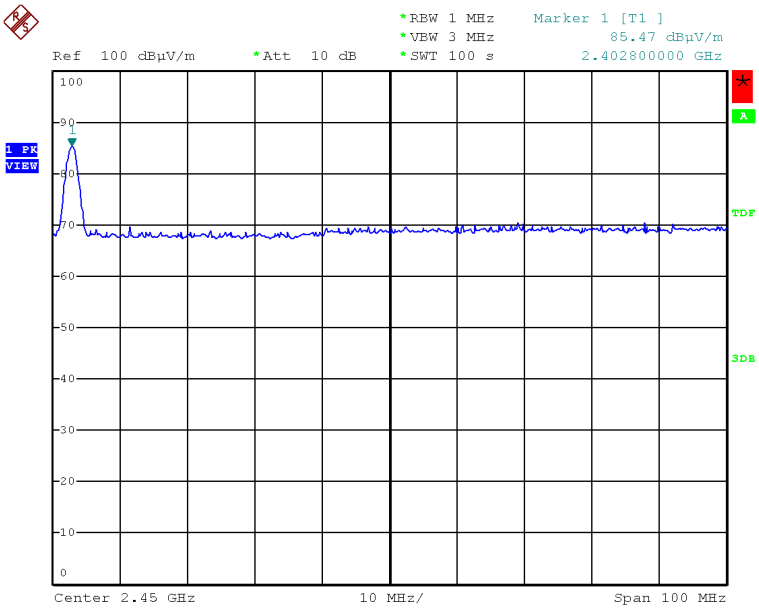
Test method : ANSI C63.4:2003

Operating mode : On mode (2403MHz)

Antenna polarity : Horizontal

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading Peak (dBuV/m)	Ant./CF CF(dB)	Average factor (dB)	Act. Peak (dBuV/m)	Act. AV (dBuV/m)	Limit Peak (dBuV/m)	Limit AV (dBuV/m)
2402.80	**H**	**53.93**	**-31.54**	**51.05**	**85.47**	**34.42**	**114.00**	**94.00**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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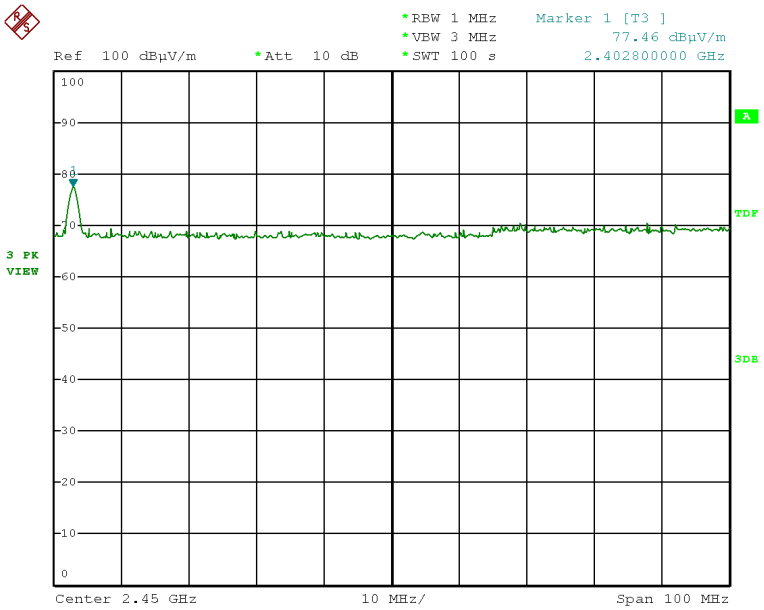
Radiated Emission Test (Fundamental)

Date of test	:	20 January 2012
Test requirement	:	FCC Part 15 Section 15.249
Test method	:	ANSI C63.4:2003
Operating mode	:	On mode (2403MHz)
Antenna polarity	:	Vertical
Remarks	:	NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading Peak (dBuV/m)	Ant./CF CF(dB)	Average factor (dB)	Act. Peak (dBuV/m)	Act. AV (dBuV/m)	Limit Peak (dBuV/m)	Limit AV (dBuV/m)
2402.80	**V**	**45.92**	**-31.54**	**51.05**	**77.46**	**26.41**	**114.00**	**94.00**

Remark:
The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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Radiated Emission Test (Fundamental)

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

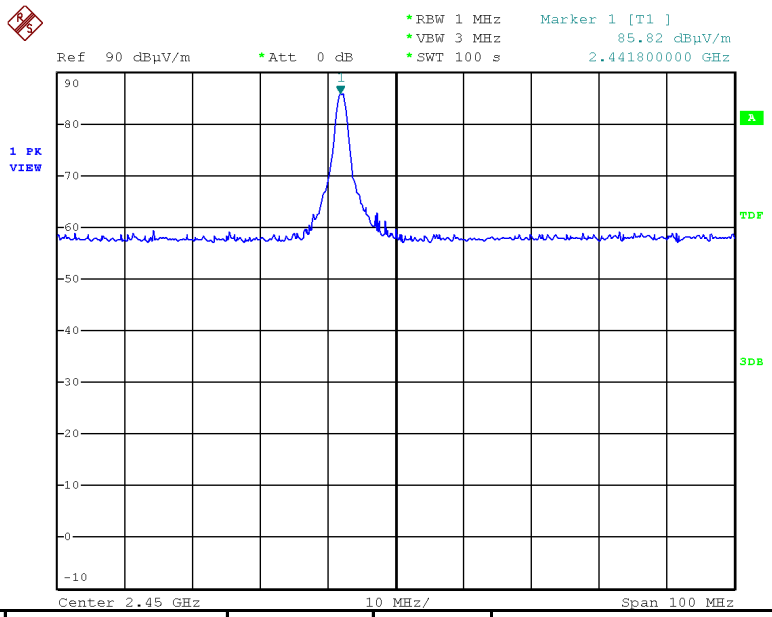
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2442 MHz)

Antenna polarity : Horizontal

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading Peak (dBuV/m)	Ant./CF CF(dB)	Average factor (dB)	Act. Peak (dBuV/m)	Act. AV (dBuV/m)	Limit Peak (dBuV/m)	Limit AV (dBuV/m)
2441.80	**H**	**54.28**	**-31.54**	**51.05**	**85.82**	**34.77**	**114.00**	**94.00**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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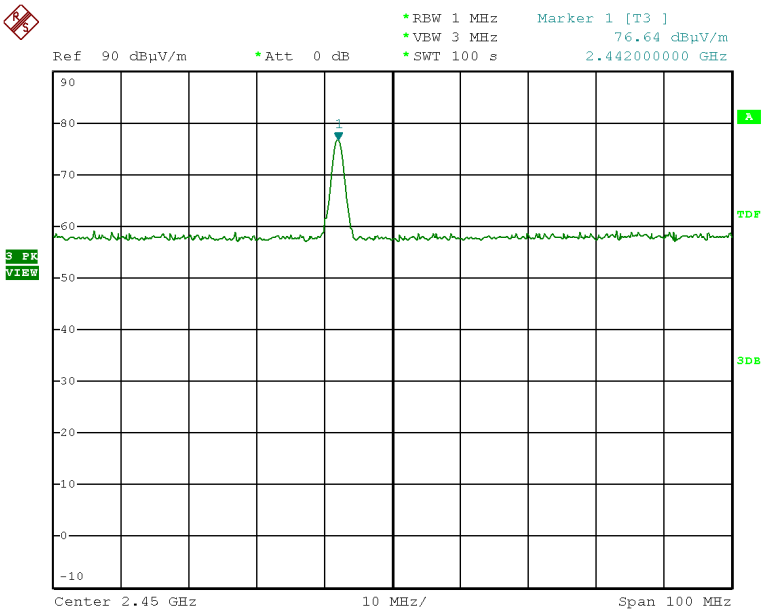
Radiated Emission Test (Fundamental)

Date of test	:	20 January 2012
Test requirement	:	FCC Part 15 Section 15.249
Test method	:	ANSI C63.4:2003
Operating mode	:	transmit without connect another unit(2442 MHz)
Antenna polarity	:	Vertical
Remarks	:	NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading Peak (dBuV/m)	Ant./CF CF(dB)	Average factor (dB)	Act. Peak (dBuV/m)	Act. AV (dBuV/m)	Limit Peak (dBuV/m)	Limit AV (dBuV/m)
2442.00	**V**	**45.10**	**-31.54**	**51.05**	**76.64**	**25.59**	**114.00**	**94.00**

Remark:
The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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Radiated Emission Test (Fundamental)

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

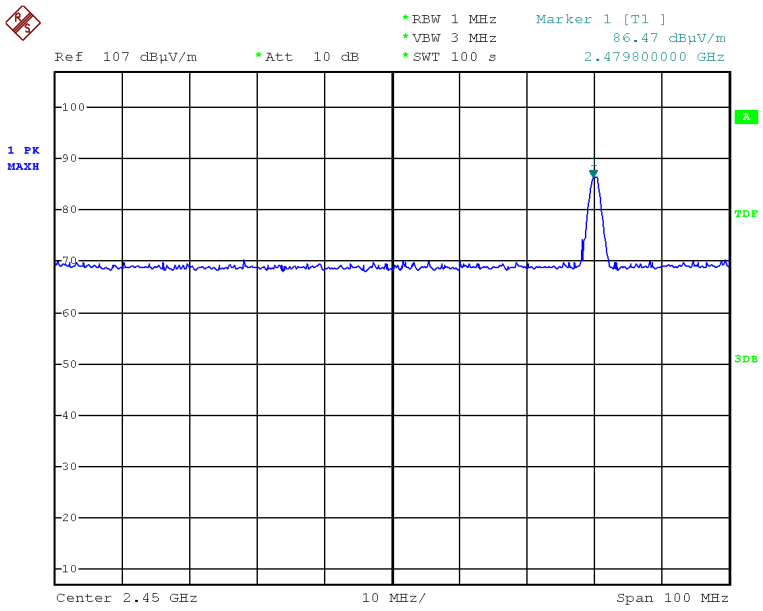
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2480 MHz)

Antenna polarity : Horizontal

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading Peak (dBuV/m)	Ant./CF CF(dB)	Average factor (dB)	Act. Peak (dBuV/m)	Act. AV (dBuV/m)	Limit Peak (dBuV/m)	Limit AV (dBuV/m)
2479.80	**H**	**54.93**	**-31.54**	**51.05**	**86.47**	**35.42**	**114.00**	**94.00**

Remark:
The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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Radiated Emission Test (Fundamental)

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

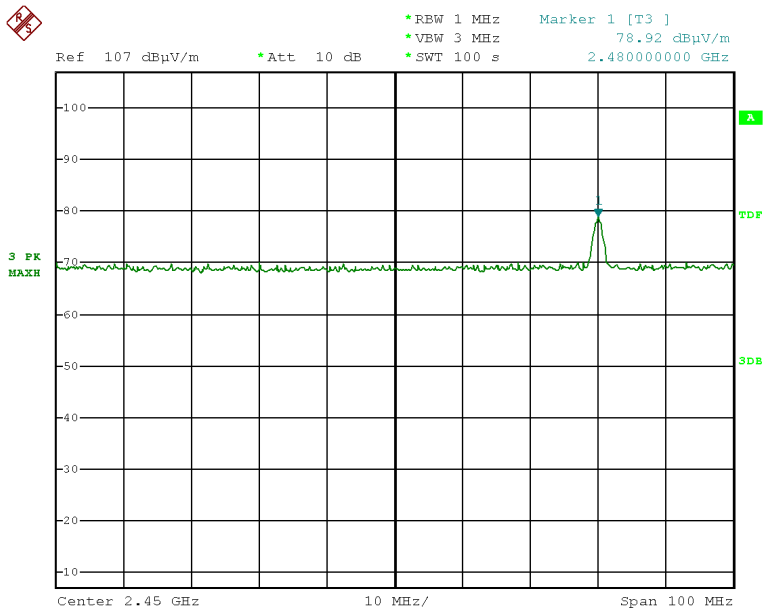
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2480 MHz)

Antenna polarity : Vertical

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading Peak (dBuV/m)	Ant./CF CF(dB)	Average factor (dB)	Act. Peak (dBuV/m)	Act. AV (dBuV/m)	Limit Peak (dBuV/m)	Limit AV (dBuV/m)
2480.00	**V**	**47.38**	**-31.54**	**51.05**	**78.92**	**27.87**	**114.00**	**94.00**

Remark:
The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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Radiated Emission Test 9kHz - 1000MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

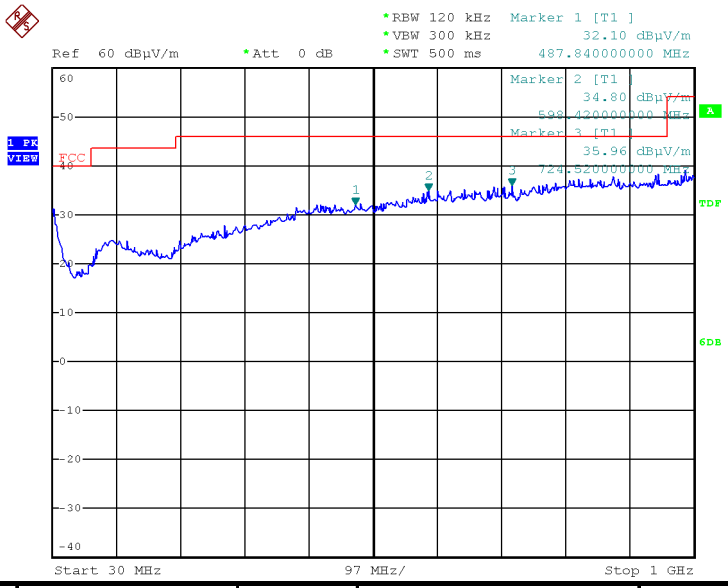
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2403 MHz)

Antenna polarity : Horizontal

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading QP (dBuV)	Ant./CF CF(dB)	Act. QP (dBuV)	Limit QP (dBuV)	Note
163.00	**H**	**20.07**	**12.15**	**32.22**	**43.50**	**X/F**
216.00	**H**	**24.00**	**11.91**	**35.91**	**43.50**	**X/F**
270.56	**H**	**21.70**	**15.58**	**37.28**	**46.00**	**X/F**
335.55	**H**	**20.48**	**17.25**	**37.73**	**46.00**	**X/F**
432.55	**H**	**17.24**	**20.54**	**37.78**	**46.00**	**X/F**
481.05	**H**	**15.35**	**21.54**	**36.89**	**46.00**	**X/F**

Remark:
The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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Radiated Emission Test 1000MHz - 2400MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

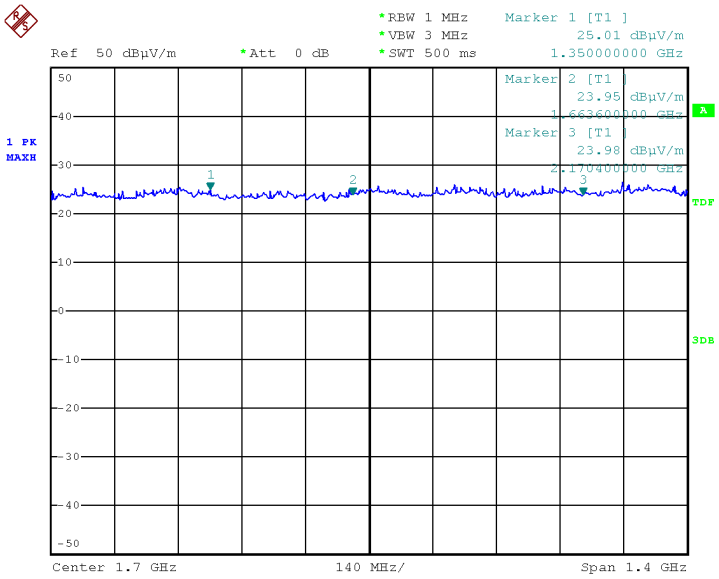
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2403 MHz)

Antenna Polarity : Horizontal

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**H**	**53.70**	**35.30**	**89.00**	**74.00**	**Peak**
13325.00	**H**	**26.78**	**45.80**	**72.58**	**74.00**	**Peak**
13325.00	**H**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**

Remark:
The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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Radiated Emission Test 2.5GHz – 18GHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

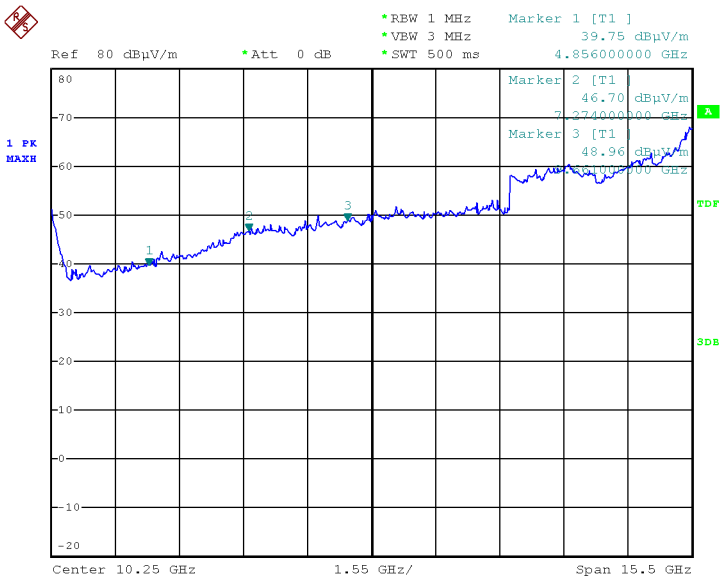
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2403 MHz)

Antenna Polarity : Horizontal

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**H**	**53.70**	**35.30**	**89.00**	**74.00**	**Peak**
13325.00	**H**	**26.78**	**45.80**	**72.58**	**74.00**	**Peak**
13325.00	**H**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**
17864.00	**H**	**26.51**	**46.50**	**73.01**	**74.00**	**Peak**
17864.00	**H**	**0.70**	**46.50**	**47.20**	**54.00**	**AVG**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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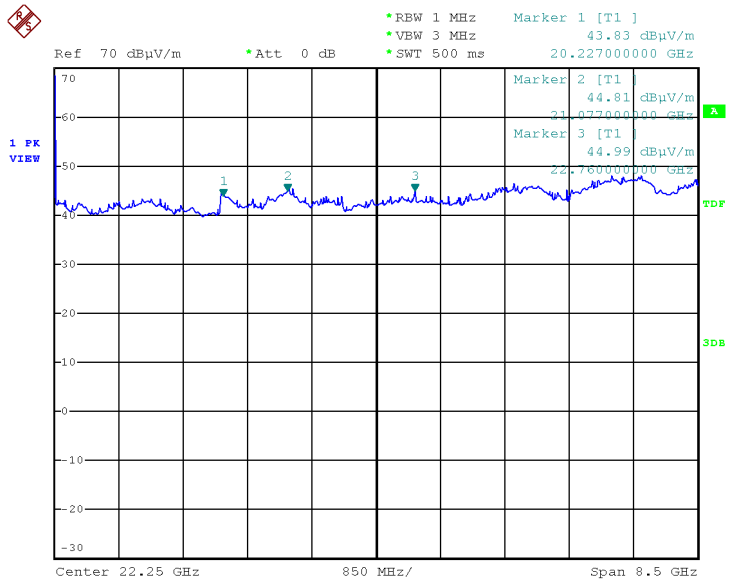
Radiated Emission Test 18GHz – 26.5GHz

Date of test	:	20 January 2012
Test requirement	:	FCC Part 15 Section 15.249
Test method	:	ANSI C63.4:2003
Operating mode	:	transmit without connect another unit(2403 MHz)
Antenna Polarity	:	Horizontal
Remarks	:	NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**H**	**53.70**	**35.30**	**89.00**	**74.00**	**Peak**
13325.00	**H**	**26.78**	**45.80**	**72.58**	**74.00**	**Peak**
13325.00	**H**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**
17864.00	**H**	**26.51**	**46.50**	**73.01**	**74.00**	**Peak**
17864.00	**H**	**0.70**	**46.50**	**47.20**	**54.00**	**AVG**

Remark:
The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

TÜV SÜD HONG KONG LTD., 3/F, West Wing, Lakeside 2, 10 Science Park West Avenue, Science Park, Shatin, HK.
Tel: +852-2776 1323 Fax: +852-2776 1206

Radiated Emission Test 9kHz - 1000MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

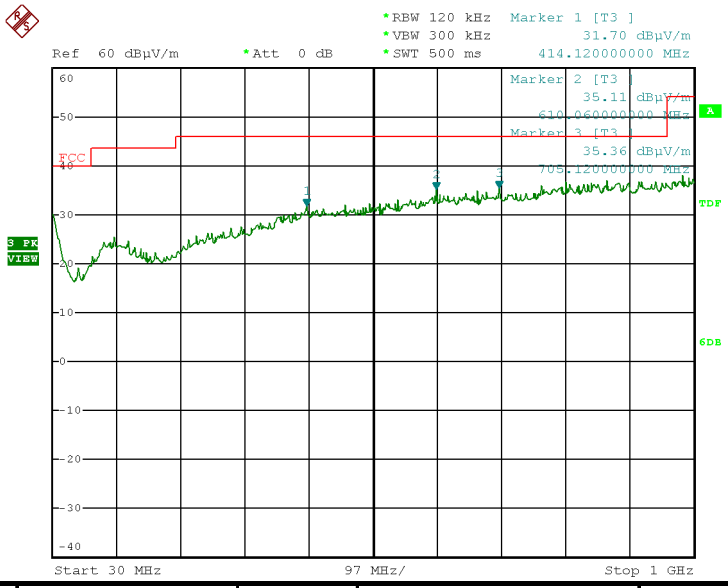
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2403 MHz)

Antenna Polarity : Vertical

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading QP (dBuV)	Ant./CF CF(dB)	Act. QP (dBuV)	Limit QP (dBuV)	Note
54.25	**V**	**17.00**	**8.35**	**25.35**	**40.00**	**X/F**
107.60	**V**	**14.30**	**12.32**	**26.62**	**43.50**	**X/F**
163.86	**V**	**17.18**	**12.08**	**29.26**	**43.50**	**X/F**
289.96	**V**	**12.93**	**16.02**	**28.95**	**46.00**	**X/F**
335.55	**V**	**13.18**	**17.25**	**30.43**	**46.00**	**X/F**
481.05	**V**	**14.49**	**21.54**	**36.03**	**46.00**	**X/F**

Remark:
The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

TÜV SÜD HONG KONG LTD., 3/F, West Wing, Lakeside 2, 10 Science Park West Avenue, Science Park, Shatin, HK.
Tel: +852-2776 1323 Fax: +852-2776 1206

Radiated Emission Test 1000MHz - 2400MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

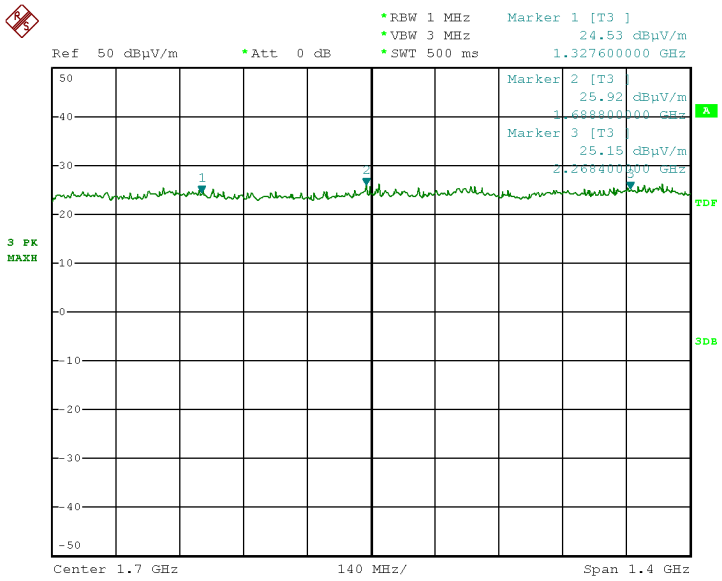
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2403 MHz)

Antenna Polarity : Vertical

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**V**	**33.38**	**35.30**	**68.68**	**74.00**	**Peak**
13291.00	**V**	**27.12**	**45.80**	**72.92**	**74.00**	**Peak**
13291.00	**V**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**
17983.00	**V**	**26.73**	**46.58**	**73.31**	**74.00**	**Peak**
17983.00	**V**	**0.62**	**46.58**	**47.20**	**54.00**	**AVG**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

TÜV SÜD HONG KONG LTD., 3/F, West Wing, Lakeside 2, 10 Science Park West Avenue, Science Park, Shatin, HK.
Tel: +852-2776 1323 Fax: +852-2776 1206

Radiated Emission Test 2.5GHz – 18GHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

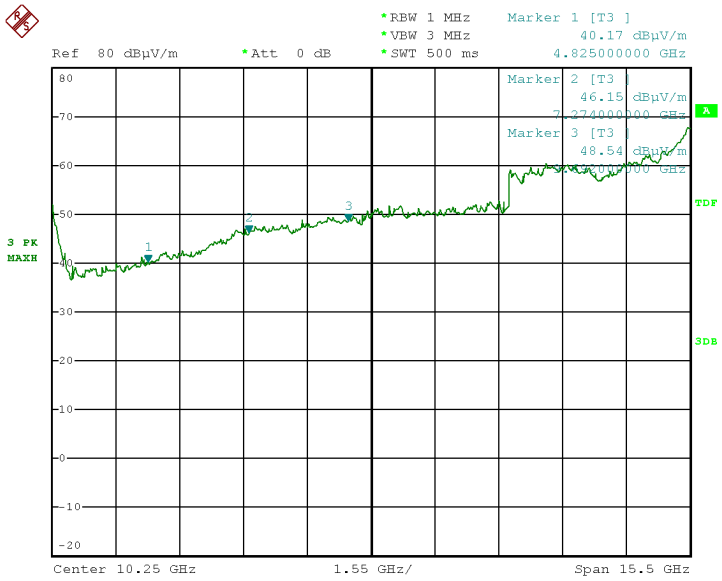
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2403 MHz)

Antenna Polarity : Vertical

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**V**	**33.38**	**35.30**	**68.68**	**74.00**	**Peak**
13291.00	**V**	**27.12**	**45.80**	**72.92**	**74.00**	**Peak**
13291.00	**V**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**
17983.00	**V**	**26.73**	**46.58**	**73.31**	**74.00**	**Peak**
17983.00	**V**	**0.62**	**46.58**	**47.20**	**54.00**	**AVG**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

TÜV SÜD HONG KONG LTD., 3/F, West Wing, Lakeside 2, 10 Science Park West Avenue, Science Park, Shatin, HK.
Tel: +852-2776 1323 Fax: +852-2776 1206

Radiated Emission Test 18GHz – 26.5GHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

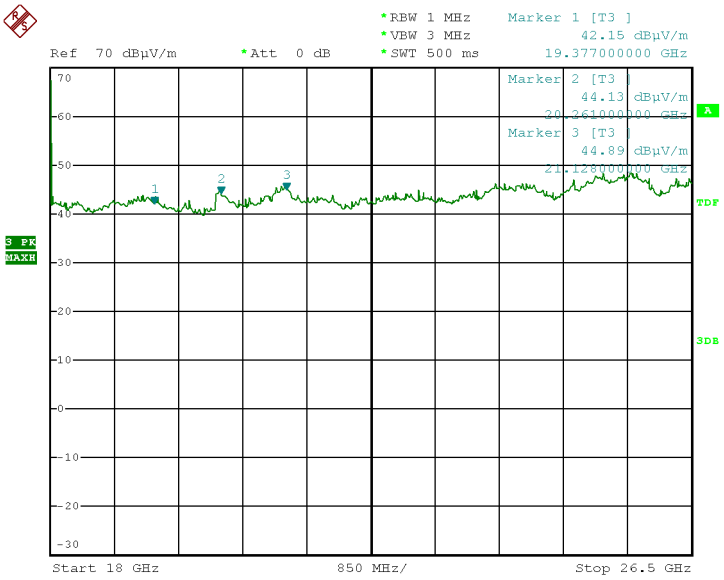
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2403 MHz)

Antenna Polarity : Vertical

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**V**	**33.38**	**35.30**	**68.68**	**74.00**	**Peak**
13291.00	**V**	**27.12**	**45.80**	**72.92**	**74.00**	**Peak**
13291.00	**V**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

TÜV SÜD HONG KONG LTD., 3/F, West Wing, Lakeside 2, 10 Science Park West Avenue, Science Park, Shatin, HK.
Tel: +852-2776 1323 Fax: +852-2776 1206

Radiated Emission Test 9kHz - 1000MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

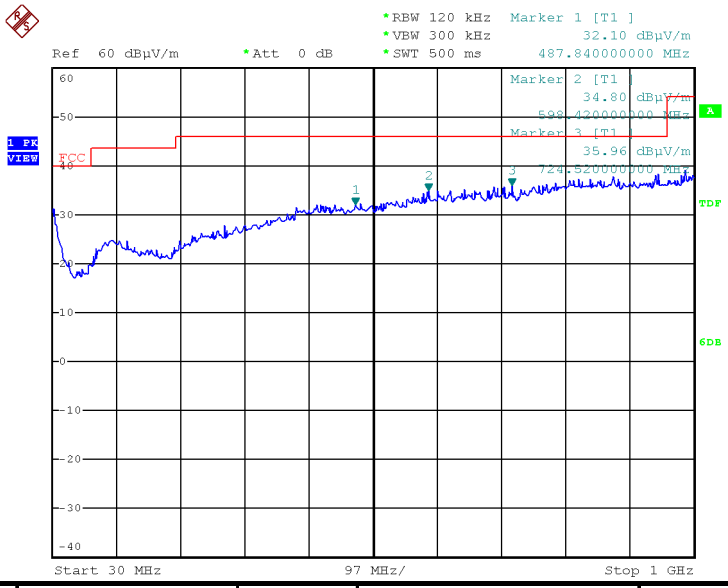
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2442 MHz)

Antenna polarity : Horizontal

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading QP (dBuV)	Ant./CF CF(dB)	Act. QP (dBuV)	Limit QP (dBuV)	Note
163.00	**H**	**20.07**	**12.15**	**32.22**	**43.50**	**X/F**
216.00	**H**	**24.00**	**11.91**	**35.91**	**43.50**	**X/F**
270.56	**H**	**21.70**	**15.58**	**37.28**	**46.00**	**X/F**
335.55	**H**	**20.48**	**17.25**	**37.73**	**46.00**	**X/F**
432.55	**H**	**17.24**	**20.54**	**37.78**	**46.00**	**X/F**
481.05	**H**	**15.35**	**21.54**	**36.89**	**46.00**	**X/F**

Remark:
The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

TÜV SÜD HONG KONG LTD., 3/F, West Wing, Lakeside 2, 10 Science Park West Avenue, Science Park, Shatin, HK.
Tel: +852-2776 1323 Fax: +852-2776 1206

Radiated Emission Test 1000MHz - 2400MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

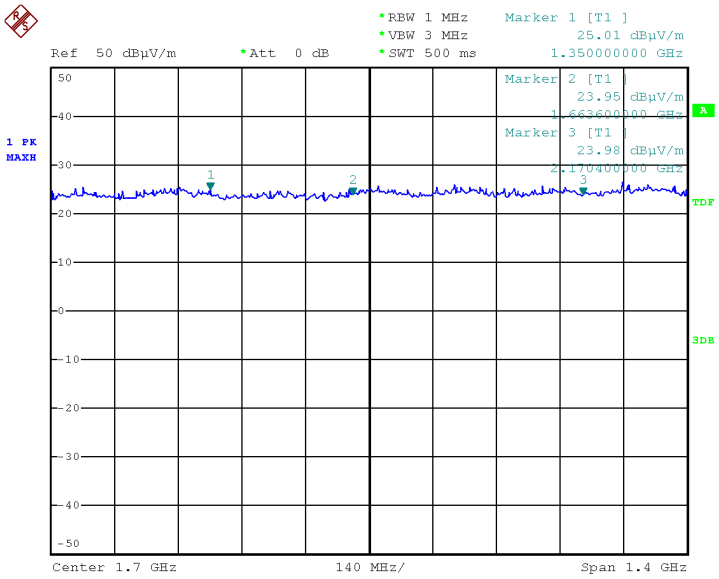
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2442 MHz)

Antenna Polarity : Horizontal

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**H**	**53.70**	**35.30**	**89.00**	**74.00**	**Peak**
13325.00	**H**	**26.78**	**45.80**	**72.58**	**74.00**	**Peak**
13325.00	**H**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**

Remark:
The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

TÜV SÜD HONG KONG LTD., 3/F, West Wing, Lakeside 2, 10 Science Park West Avenue, Science Park, Shatin, HK.
Tel: +852-2776 1323 Fax: +852-2776 1206

Radiated Emission Test 2.5GHz – 18GHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

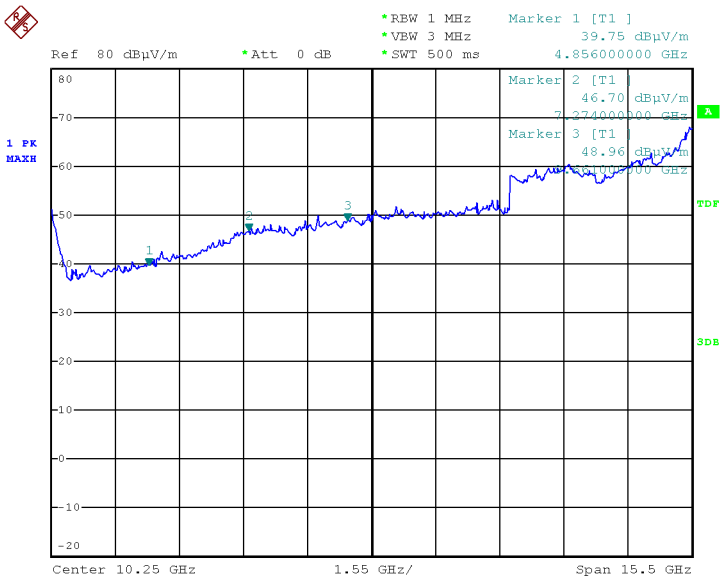
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2442 MHz)

Antenna Polarity : Horizontal

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**H**	**53.70**	**35.30**	**89.00**	**74.00**	**Peak**
13325.00	**H**	**26.78**	**45.80**	**72.58**	**74.00**	**Peak**
13325.00	**H**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**
17864.00	**H**	**26.51**	**46.50**	**73.01**	**74.00**	**Peak**
17864.00	**H**	**0.70**	**46.50**	**47.20**	**54.00**	**AVG**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

TÜV SÜD HONG KONG LTD., 3/F, West Wing, Lakeside 2, 10 Science Park West Avenue, Science Park, Shatin, HK.
Tel: +852-2776 1323 Fax: +852-2776 1206

Radiated Emission Test 18GHz – 26.5GHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

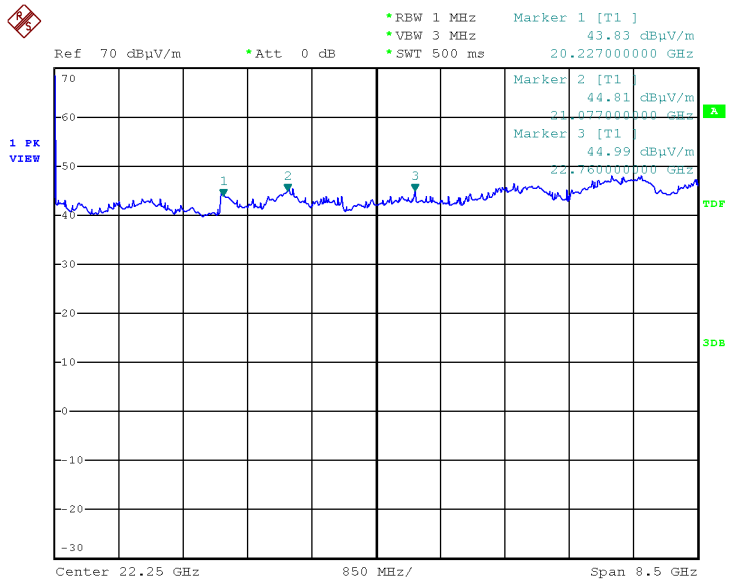
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2442 MHz)

Antenna Polarity : Horizontal

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**H**	**53.70**	**35.30**	**89.00**	**74.00**	**Peak**
13325.00	**H**	**26.78**	**45.80**	**72.58**	**74.00**	**Peak**
13325.00	**H**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**
17864.00	**H**	**26.51**	**46.50**	**73.01**	**74.00**	**Peak**
17864.00	**H**	**0.70**	**46.50**	**47.20**	**54.00**	**AVG**

Remark:
The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

TÜV SÜD HONG KONG LTD., 3/F, West Wing, Lakeside 2, 10 Science Park West Avenue, Science Park, Shatin, HK.
Tel: +852-2776 1323 Fax: +852-2776 1206

Radiated Emission Test 9kHz - 1000MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

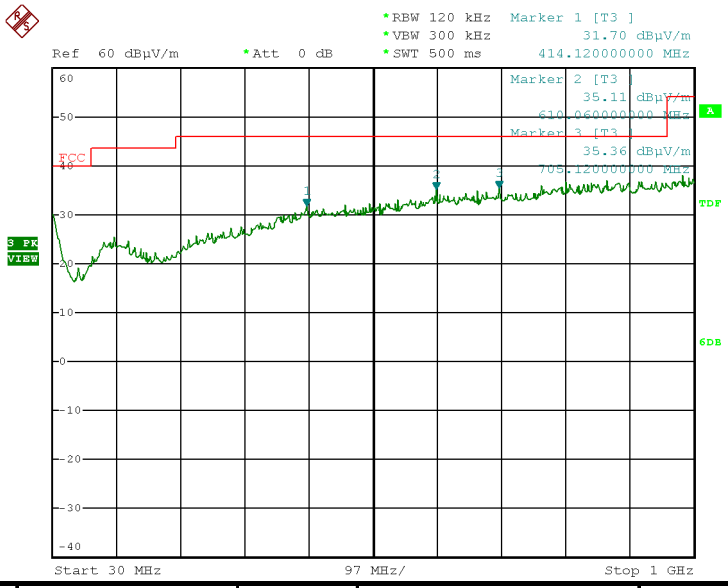
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2442 MHz)

Antenna Polarity : Vertical

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading QP (dBuV)	Ant./CF CF(dB)	Act. QP (dBuV)	Limit QP (dBuV)	Note
54.25	**V**	**17.00**	**8.35**	**25.35**	**40.00**	**X/F**
107.60	**V**	**14.30**	**12.32**	**26.62**	**43.50**	**X/F**
163.86	**V**	**17.18**	**12.08**	**29.26**	**43.50**	**X/F**
289.96	**V**	**12.93**	**16.02**	**28.95**	**46.00**	**X/F**
335.55	**V**	**13.18**	**17.25**	**30.43**	**46.00**	**X/F**
481.05	**V**	**14.49**	**21.54**	**36.03**	**46.00**	**X/F**

Remark:
The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

TÜV SÜD HONG KONG LTD., 3/F, West Wing, Lakeside 2, 10 Science Park West Avenue, Science Park, Shatin, HK.
Tel: +852-2776 1323 Fax: +852-2776 1206

Radiated Emission Test 1000MHz - 2400MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

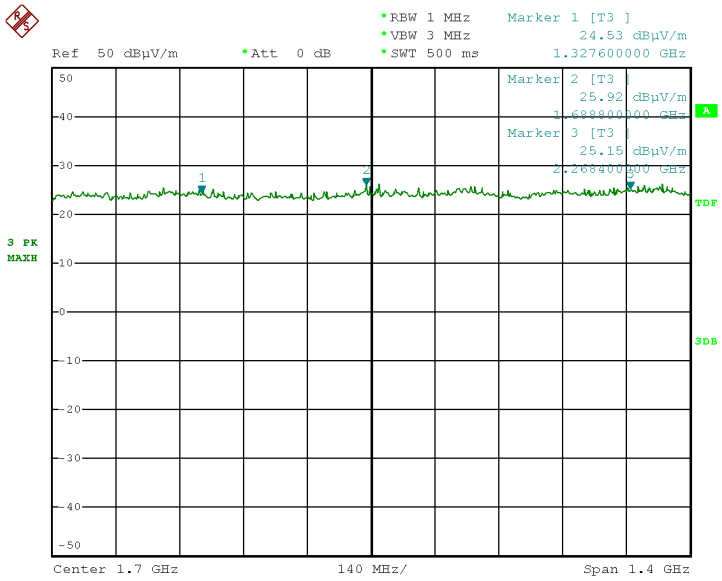
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2442 MHz)

Antenna Polarity : Vertical

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**V**	**33.38**	**35.30**	**68.68**	**74.00**	**Peak**
13291.00	**V**	**27.12**	**45.80**	**72.92**	**74.00**	**Peak**
13291.00	**V**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**
17983.00	**V**	**26.73**	**46.58**	**73.31**	**74.00**	**Peak**
17983.00	**V**	**0.62**	**46.58**	**47.20**	**54.00**	**AVG**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

TÜV SÜD HONG KONG LTD., 3/F, West Wing, Lakeside 2, 10 Science Park West Avenue, Science Park, Shatin, HK.
Tel: +852-2776 1323 Fax: +852-2776 1206

Radiated Emission Test 2.5GHz – 18GHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

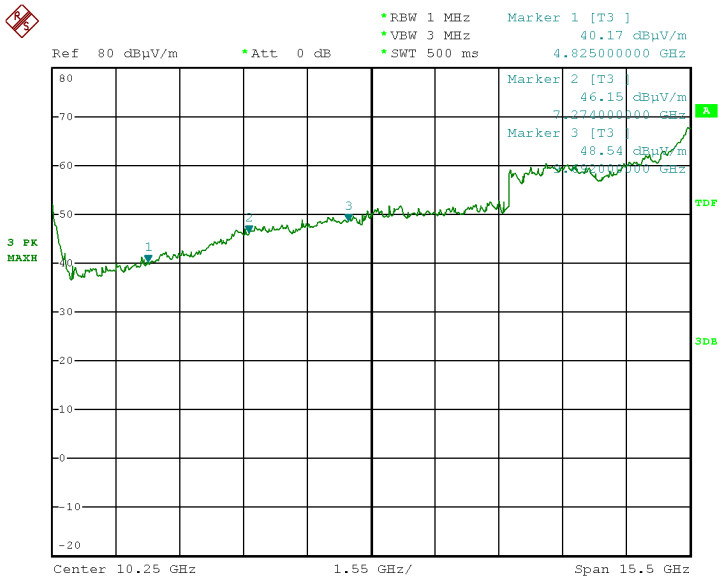
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2442 MHz)

Antenna Polarity : Vertical

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**V**	**33.38**	**35.30**	**68.68**	**74.00**	**Peak**
13291.00	**V**	**27.12**	**45.80**	**72.92**	**74.00**	**Peak**
13291.00	**V**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**
17983.00	**V**	**26.73**	**46.58**	**73.31**	**74.00**	**Peak**
17983.00	**V**	**0.62**	**46.58**	**47.20**	**54.00**	**AVG**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

TÜV SÜD HONG KONG LTD., 3/F, West Wing, Lakeside 2, 10 Science Park West Avenue, Science Park, Shatin, HK.
Tel: +852-2776 1323 Fax: +852-2776 1206

Radiated Emission Test 18GHz – 26.5GHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

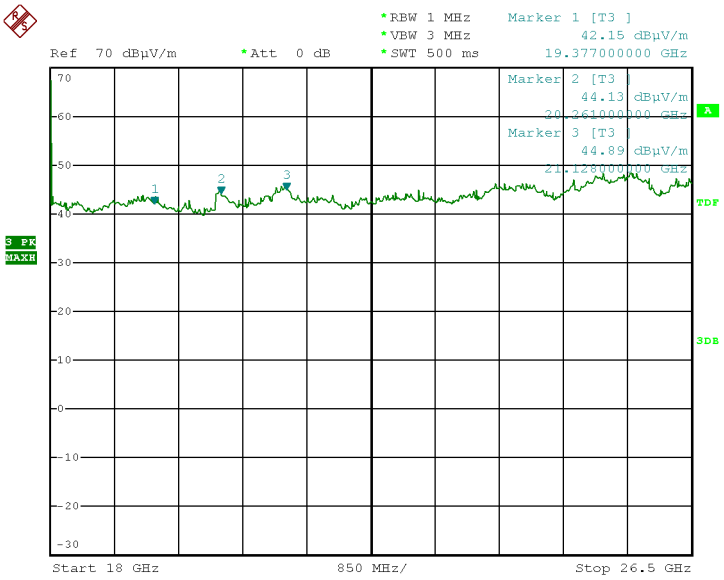
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2442 MHz)

Antenna Polarity : Vertical

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**V**	**33.38**	**35.30**	**68.68**	**74.00**	**Peak**
13291.00	**V**	**27.12**	**45.80**	**72.92**	**74.00**	**Peak**
13291.00	**V**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

TÜV SÜD HONG KONG LTD., 3/F, West Wing, Lakeside 2, 10 Science Park West Avenue, Science Park, Shatin, HK.
Tel: +852-2776 1323 Fax: +852-2776 1206

Radiated Emission Test 9kHz - 1000MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

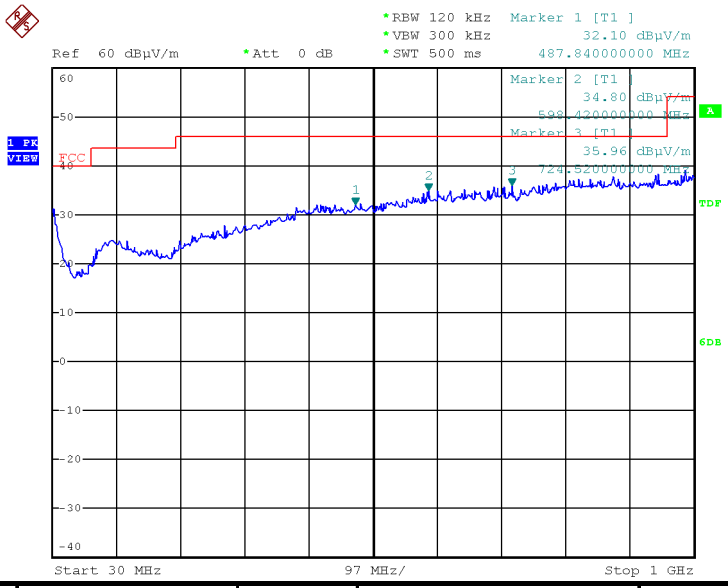
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2480 MHz)

Antenna polarity : Horizontal

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading QP (dBuV)	Ant./CF CF(dB)	Act. QP (dBuV)	Limit QP (dBuV)	Note
163.00	**H**	**20.07**	**12.15**	**32.22**	**43.50**	**X/F**
216.00	**H**	**24.00**	**11.91**	**35.91**	**43.50**	**X/F**
270.56	**H**	**21.70**	**15.58**	**37.28**	**46.00**	**X/F**
335.55	**H**	**20.48**	**17.25**	**37.73**	**46.00**	**X/F**
432.55	**H**	**17.24**	**20.54**	**37.78**	**46.00**	**X/F**
481.05	**H**	**15.35**	**21.54**	**36.89**	**46.00**	**X/F**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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Radiated Emission Test 1000MHz - 2400MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

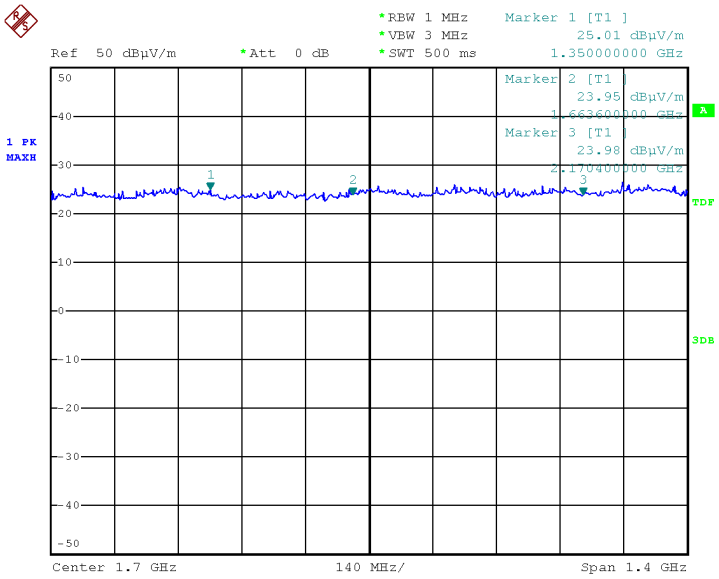
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2480 MHz)

Antenna Polarity : Horizontal

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**H**	**53.70**	**35.30**	**89.00**	**74.00**	**Peak**
13325.00	**H**	**26.78**	**45.80**	**72.58**	**74.00**	**Peak**
13325.00	**H**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**

Remark:
The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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Radiated Emission Test 2.5GHz – 18GHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

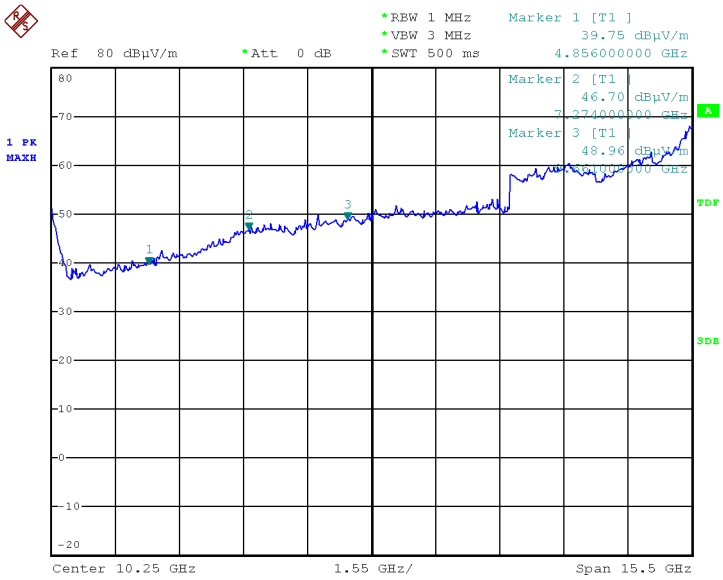
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2480 MHz)

Antenna Polarity : Horizontal

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**H**	**53.70**	**35.30**	**89.00**	**74.00**	**Peak**
13325.00	**H**	**26.78**	**45.80**	**72.58**	**74.00**	**Peak**
13325.00	**H**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**
17864.00	**H**	**26.51**	**46.50**	**73.01**	**74.00**	**Peak**
17864.00	**H**	**0.70**	**46.50**	**47.20**	**54.00**	**AVG**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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Radiated Emission Test 18GHz – 26.5GHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

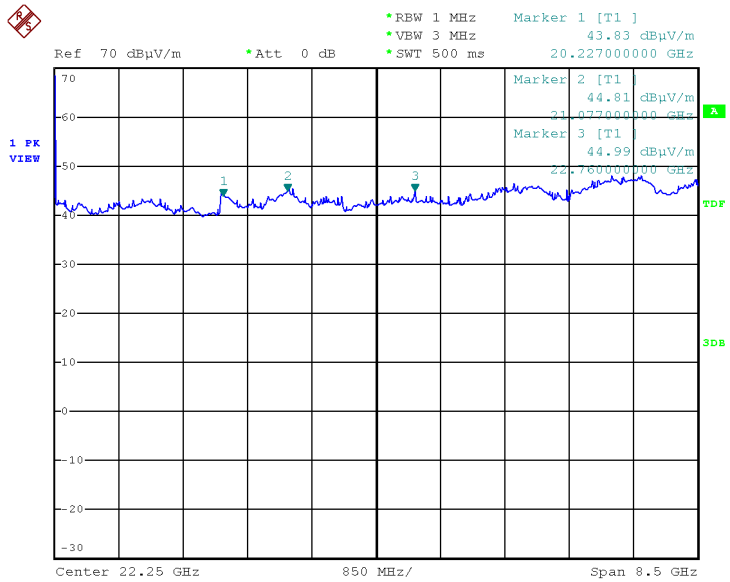
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2480 MHz)

Antenna Polarity : Horizontal

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**H**	**53.70**	**35.30**	**89.00**	**74.00**	**Peak**
13325.00	**H**	**26.78**	**45.80**	**72.58**	**74.00**	**Peak**
13325.00	**H**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**
17864.00	**H**	**26.51**	**46.50**	**73.01**	**74.00**	**Peak**
17864.00	**H**	**0.70**	**46.50**	**47.20**	**54.00**	**AVG**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

TÜV SÜD HONG KONG LTD., 3/F, West Wing, Lakeside 2, 10 Science Park West Avenue, Science Park, Shatin, HK.
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Radiated Emission Test 9kHz - 1000MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

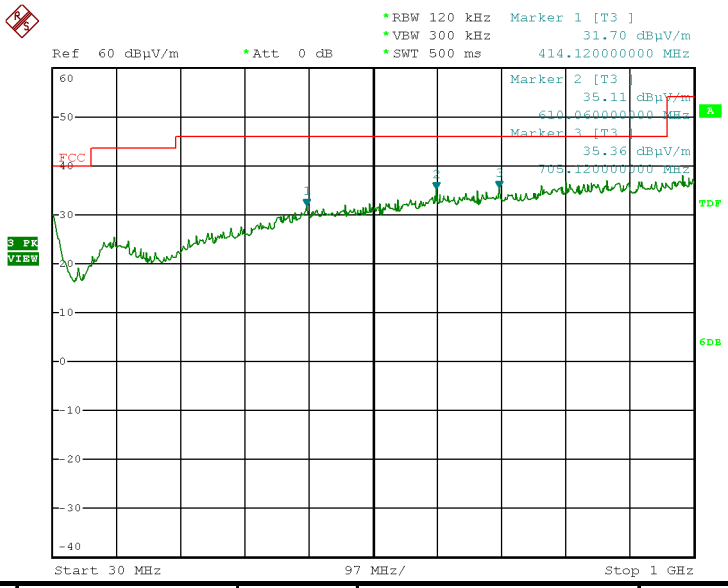
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2480 MHz)

Antenna Polarity : Vertical

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading QP (dBuV)	Ant./CF CF(dB)	Act. QP (dBuV)	Limit QP (dBuV)	Note
54.25	**V**	**17.00**	**8.35**	**25.35**	**40.00**	**X/F**
107.60	**V**	**14.30**	**12.32**	**26.62**	**43.50**	**X/F**
163.86	**V**	**17.18**	**12.08**	**29.26**	**43.50**	**X/F**
289.96	**V**	**12.93**	**16.02**	**28.95**	**46.00**	**X/F**
335.55	**V**	**13.18**	**17.25**	**30.43**	**46.00**	**X/F**
481.05	**V**	**14.49**	**21.54**	**36.03**	**46.00**	**X/F**

Remark:
The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

TÜV SÜD HONG KONG LTD., 3/F, West Wing, Lakeside 2, 10 Science Park West Avenue, Science Park, Shatin, HK.
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Radiated Emission Test 1000MHz - 2400MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

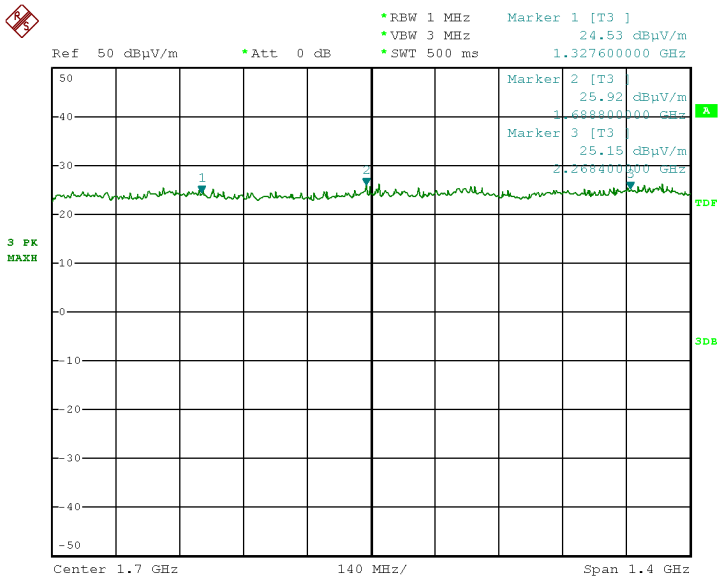
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2480 MHz)

Antenna Polarity : Vertical

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**V**	**33.38**	**35.30**	**68.68**	**74.00**	**Peak**
13291.00	**V**	**27.12**	**45.80**	**72.92**	**74.00**	**Peak**
13291.00	**V**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**
17983.00	**V**	**26.73**	**46.58**	**73.31**	**74.00**	**Peak**
17983.00	**V**	**0.62**	**46.58**	**47.20**	**54.00**	**AVG**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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Radiated Emission Test 2.5GHz – 18GHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

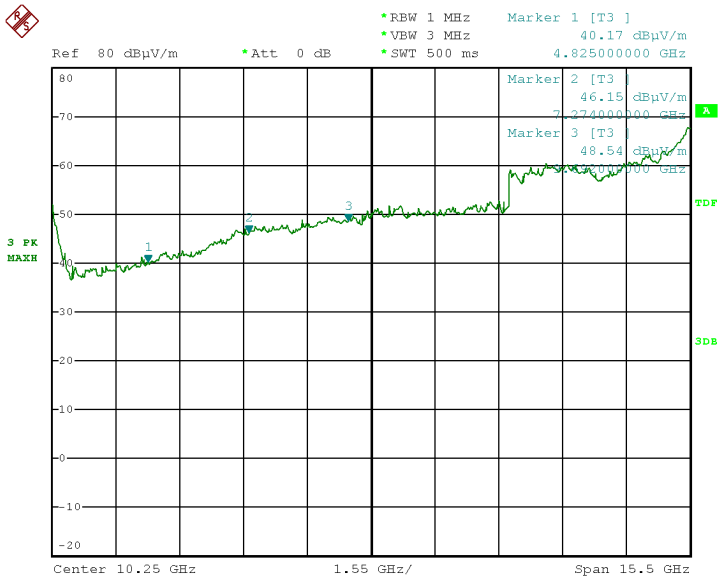
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2480 MHz)

Antenna Polarity : Vertical

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**V**	**33.38**	**35.30**	**68.68**	**74.00**	**Peak**
13291.00	**V**	**27.12**	**45.80**	**72.92**	**74.00**	**Peak**
13291.00	**V**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**
17983.00	**V**	**26.73**	**46.58**	**73.31**	**74.00**	**Peak**
17983.00	**V**	**0.62**	**46.58**	**47.20**	**54.00**	**AVG**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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Radiated Emission Test 18GHz – 26.5GHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.249

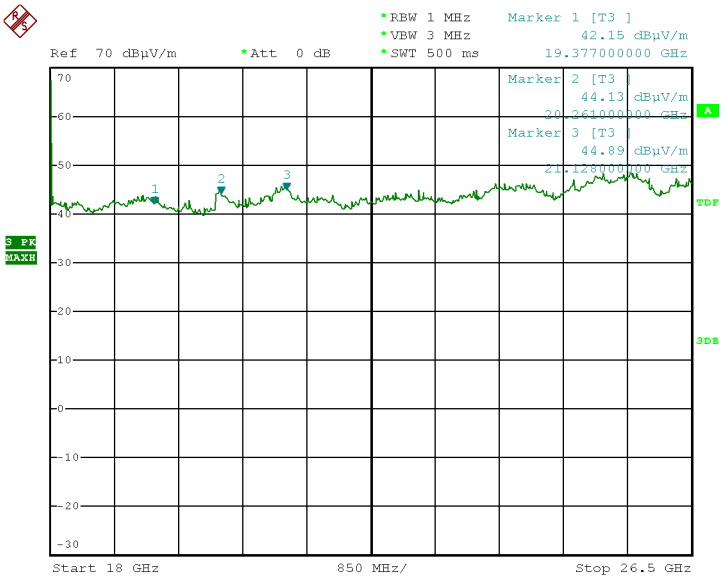
Test method : ANSI C63.4:2003

Operating mode : transmit without connect another unit(2480 MHz)

Antenna Polarity : Vertical

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
2496.00	**V**	**33.38**	**35.30**	**68.68**	**74.00**	**Peak**
13291.00	**V**	**27.12**	**45.80**	**72.92**	**74.00**	**Peak**
13291.00	**V**	**0.78**	**45.80**	**46.58**	**54.00**	**AVG**

Remark:
The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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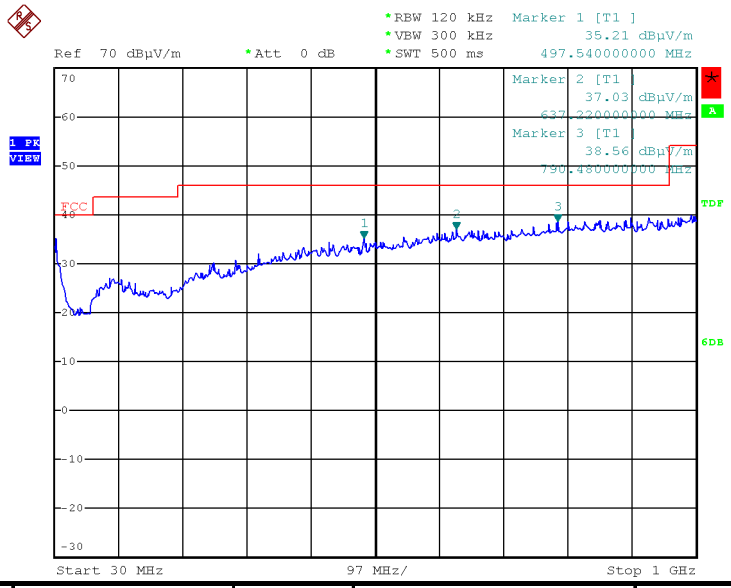
Tel: +852-2776 1323 Fax: +852-2776 1206

Radiated Emission Test 9kHz – 1000MHz

Date of test	:	20 January 2012
Test requirement	:	FCC Part 15 Section 15.109
Test method	:	ANSI C63.4:2003
Operating mode	:	PC
Antenna Polarity	:	Horizontal
Remarks	:	NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading QP (dBuV)	Ant./CF CF(dB)	Act. QP (dBuV)	Limit QP (dBuV)	Note
108.00	**H**	**22.90**	**12.32**	**35.22**	**43.50**	**X/F**
163.86	**H**	**21.87**	**12.08**	**33.95**	**43.50**	**X/F**
216.24	**H**	**21.92**	**11.91**	**33.83**	**46.00**	**X/F**
289.96	**H**	**20.18**	**16.02**	**36.20**	**46.00**	**X/F**
335.55	**H**	**22.71**	**17.25**	**39.96**	**46.00**	**X/F**
432.55	**H**	**17.09**	**20.55**	**37.64**	**46.00**	**X/F**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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Radiated Emission Test 1000MHz – 6000MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.109

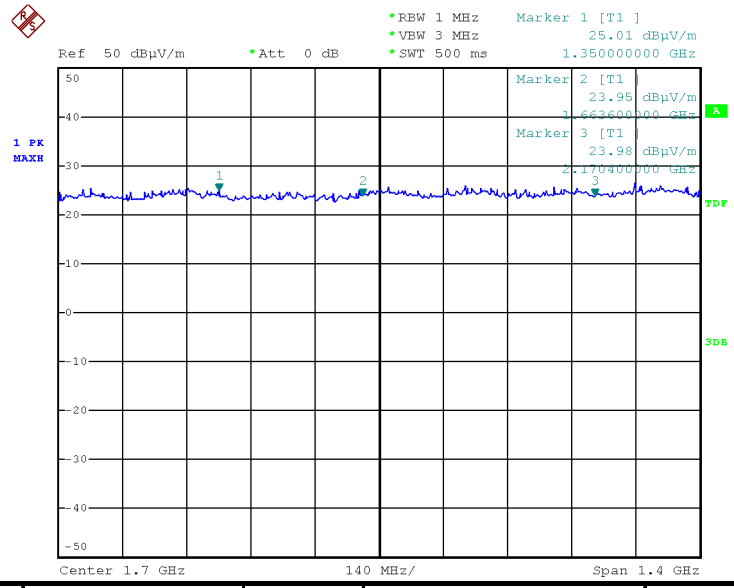
Test method : ANSI C63.4:2003

Operating mode : PC

Antenna Polarity : Horizontal

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
13325.00	**H**	**30.60**	**42.32**	**72.92**	**74.00**	**Peak**
13325.00	**H**	**4.26**	**42.32**	**46.58**	**54.00**	**AVG**
17184.00	**H**	**24.59**	**46.42**	**71.01**	**74.00**	**Peak**
17184.00	**H**	**1.10**	**46.42**	**47.52**	**54.00**	**AVG**
17830.00	**H**	**26.78**	**45.65**	**72.43**	**74.00**	**Peak**
17830.00	**H**	**2.88**	**45.62**	**48.50**	**54.00**	**AVG**

Remark:
The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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Radiated Emission Test 1000MHz – 6000MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.109

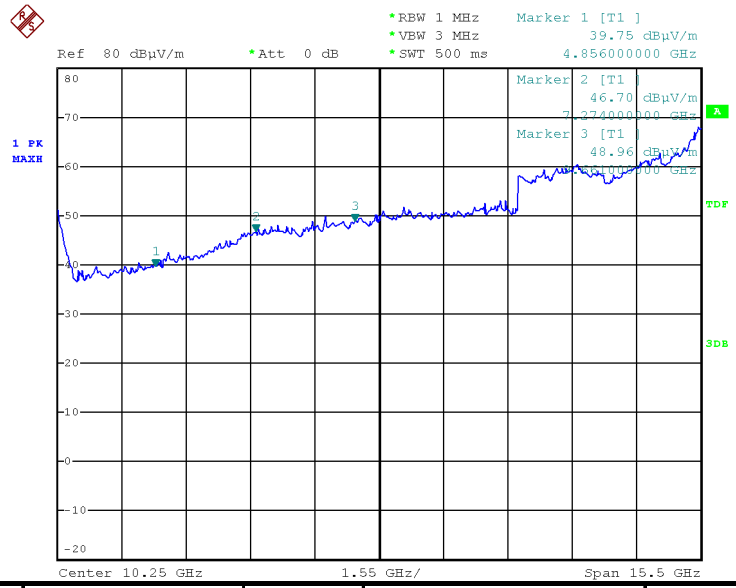
Test method : ANSI C63.4:2003

Operating mode : PC

Antenna Polarity : Horizontal

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
13325.00	**H**	**30.60**	**42.32**	**72.92**	**74.00**	**Peak**
13325.00	**H**	**4.26**	**42.32**	**46.58**	**54.00**	**AVG**
17184.00	**H**	**24.59**	**46.42**	**71.01**	**74.00**	**Peak**
17184.00	**H**	**1.10**	**46.42**	**47.52**	**54.00**	**AVG**
17830.00	**H**	**26.78**	**45.65**	**72.43**	**74.00**	**Peak**
17830.00	**H**	**2.88**	**45.62**	**48.50**	**54.00**	**AVG**

Remark:
The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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Radiated Emission Test 30MHz – 1000MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.109

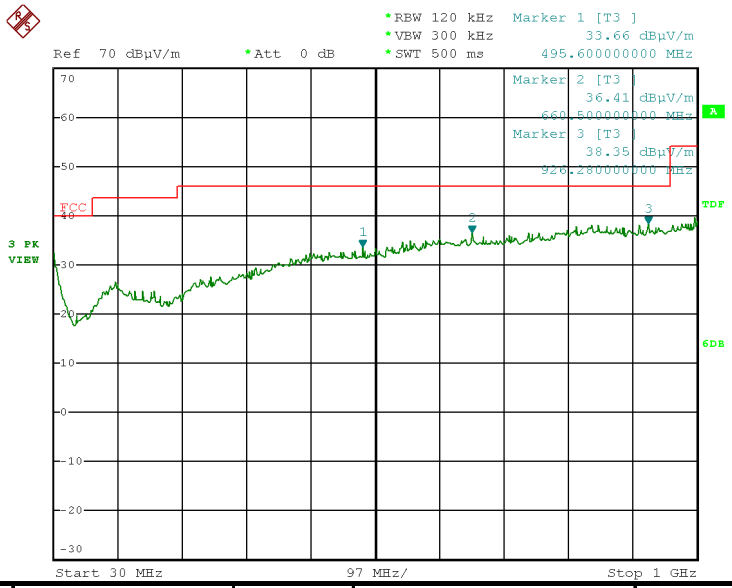
Test method : ANSI C63.4:2003

Operating mode : PC

Antenna Polarity : Vertical

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading QP (dBuV)	Ant./CF CF(dB)	Act. QP (dBuV)	Limit QP (dBuV)	Note
54.25	**V**	**24.04**	**8.35**	**32.39**	**40.00**	**X/F**
107.60	**V**	**20.78**	**12.32**	**33.10**	**43.50**	**X/F**
163.86	**V**	**20.49**	**12.08**	**32.57**	**43.50**	**X/F**
335.55	**V**	**16.32**	**17.25**	**33.57**	**46.00**	**X/F**
398.60	**V**	**13.90**	**19.30**	**33.20**	**46.00**	**X/F**
481.05	**V**	**11.40**	**21.54**	**32.94**	**46.00**	**X/F**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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Radiated Emission Test 1000MHz – 6000MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.109

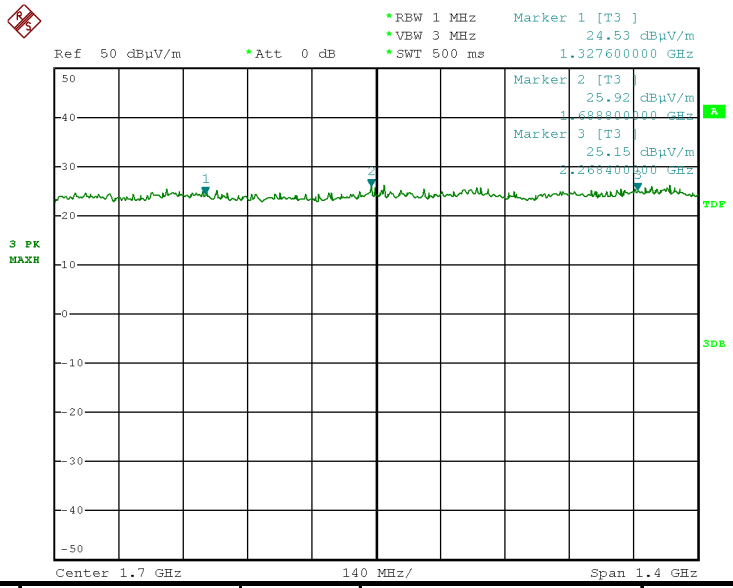
Test method : ANSI C63.4:2003

Operating mode : PC

Antenna Polarity : Vertical

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
1204.00	**V**	**16.61**	**29.56**	**46.17**	**74.00**	**Peak**
13495.00	**V**	**30.48**	**42.80**	**73.28**	**74.00**	**Peak**
13495.00	**V**	**1.78**	**42.80**	**44.58**	**54.00**	**AVG**
17065.00	**V**	**24.33**	**47.68**	**72.01**	**74.00**	**Peak**
17065.00	**V**	**1.29**	**47.68**	**48.97**	**54.00**	**AVG**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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Radiated Emission Test 1000MHz – 6000MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15 Section 15.109

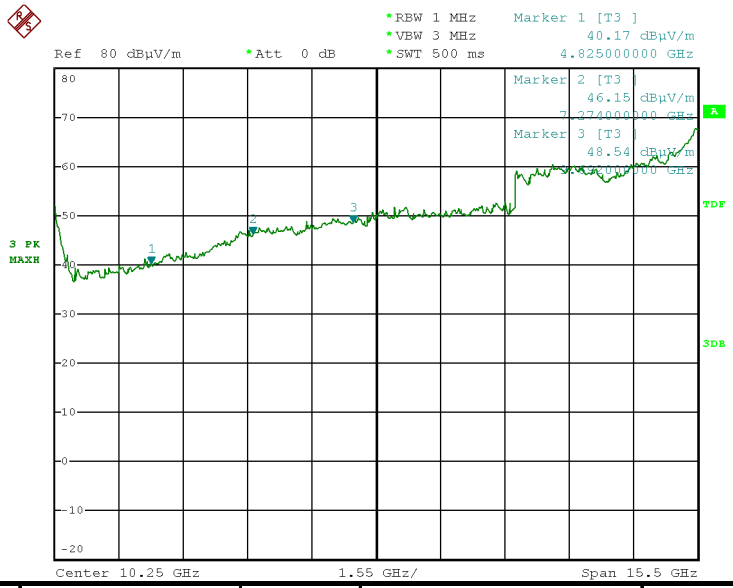
Test method : ANSI C63.4:2003

Operating mode : PC

Antenna Polarity : Vertical

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Freq. (MHz)	Ant.Pol. H/V	Reading (dBµV/m)	Ant./CF CF(dB)	Act. (dBµV/m)	Limit (dBµV/m)	Note
1204.00	**V**	**16.61**	**29.56**	**46.17**	**74.00**	**Peak**
13495.00	**V**	**30.48**	**42.80**	**73.28**	**74.00**	**Peak**
13495.00	**V**	**1.78**	**42.80**	**44.58**	**54.00**	**AVG**
17065.00	**V**	**24.33**	**47.68**	**72.01**	**74.00**	**Peak**
17065.00	**V**	**1.29**	**47.68**	**48.97**	**54.00**	**AVG**

Remark: The EUT was placed on the top of the turntable in test site area.
The resolution bandwidth setting on the test receiver was 9 KHz, Detector function peak (9kHz～30MHz).
The resolution bandwidth setting on the test receiver was 120 KHz, Detector function peak (30 MHz～1000MHz).
The resolution bandwidth setting on the test receiver was 1MHz, Detector function peak (1 GHz～5GHz).
The test shall be made in the operation mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
For emissions measurement, the receiving antenna was placed 3 meters far away from the turntable.
The antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization.
Adjust the emission and slightly rotate the turntable to locate the position with maximum reading.
Adjust the emission and slightly height of the antenna to locate the position with maximum reading.
If the peak scan value lower limit more than 20dB, then this signal data does not show in graph
9kHz -30MHz and 18500 MHz to 26500MHz only have the background noise, the test date and graph does not show on the test report

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Test Equipment List

Radiated Emission Test

Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
Antenna	Schwarbeck	VULB9160	9160-3232	Jun .04.2012
Antenna	Schwarbeck	VULB9160	9160-3233	Jun .04.2012
Amplifier	Agilent	8447D	2944A11203	Nov.26.2012
Amplifier	Agilent	8447D	2944A11204	Nov.26.2012
Spectrum Analyzer	Agilent	E4443A	MY48250370	Nov.26.2012
RF Pre-selector	Agilent	N9039A	MY46520201	Nov.26.2012
Test Cable	N/A	Cable_5m_8m_15m	N/A	Jan.28.2012
Test Cable	N/A	Cable_5m_11m_15m	N/A	Jan.28.2012
Spectrum Analyzer	Agilent	E4447A	MY48250208	Nov.26.2012
RF Pre-selector	Agilent	N9039A	MY46520214	Nov.26.2012
Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
Horn Antenna	EMCO	3115	9605-4803	May.26.2012
Amplifier	Agilent	8449B	3008A02584	Nov.26.2012
Spectrum Analyzer	Agilent	E4447A	MY48250208	Nov.26.2012
Test Cable	Huber+Suhner	SUCOFLEX_15m_4m	N/A	Apr.06.2012
Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
Temp. & Humid. Chamber	GIANT FORCE	ITH-225-20-S	IAB0309-001	Dec.06.2012
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Aug.16.2012

Uncertainty:

Contribution	Probability Distribution	Uncertainty (dB)
Total uncertainty at a minimum confidence level of 95%	Normal (k=2)	± 2.66 (correct to 1 decimal place)

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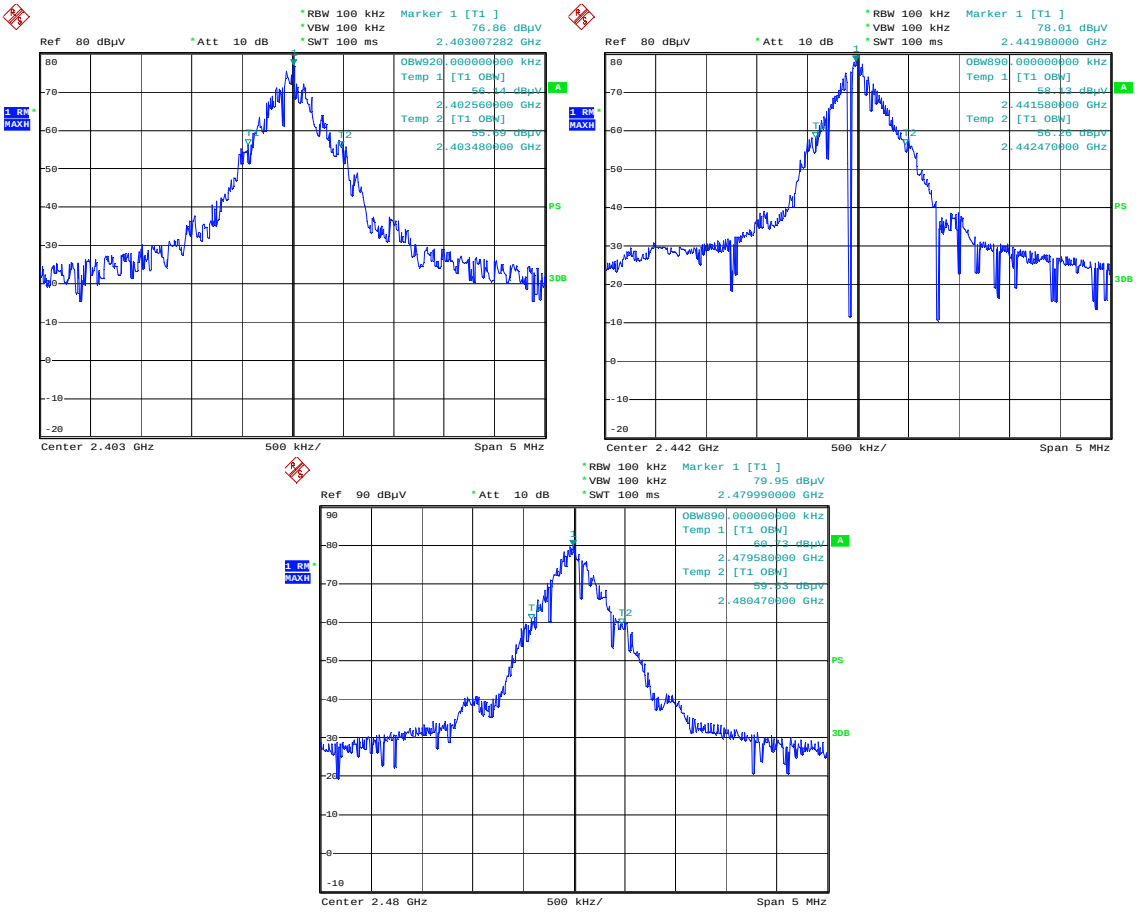
6.2 20dB Bandwidth measurement

Date of test	:	20 January 2012
Test requirement	:	FCC Part 15 Section 15.249
Test method	:	ANSI C63.4:2003
Operating mode	:	On mode
Remarks	:	NIL

Test Result
☒ Passed
☐ Not Passed



Remark: Use the following spectrum analyzer settings:
Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel
RBW ≥ 1% of the 20 dB bandwidth
VBW ≥ RBW Sweep = auto
Detector function = peak
Trace = max hold
The EUT should be transmitting at its maximum data rate. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the marker delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20 dB bandwidth of the emission. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this Section.

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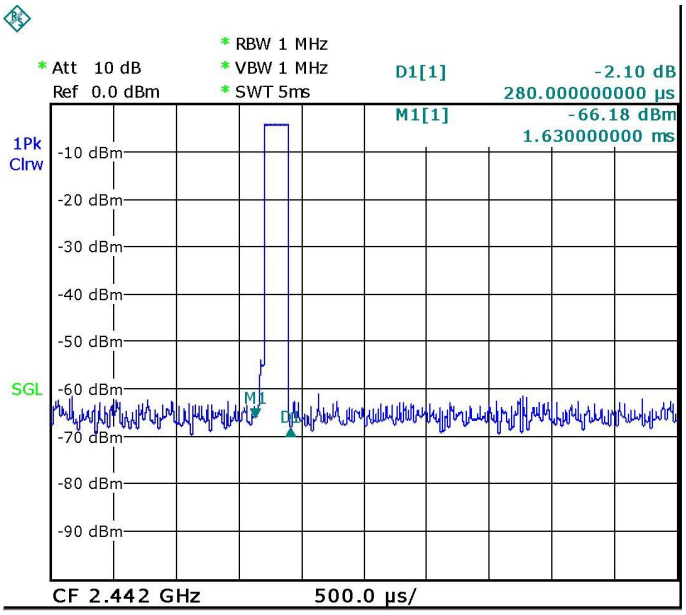
6.3 Duty cycle measurement

Date of test	:	20 January 2012
Test requirement	:	FCC Part 15 Section 15.231
Test method	:	ANSI C63.4:2003
Operating mode	:	On mode
Remarks	:	Detector function = peak

Test Result
☒ Passed
☐ Not Passed



EUT data packet 1 has the period of 0.28ms

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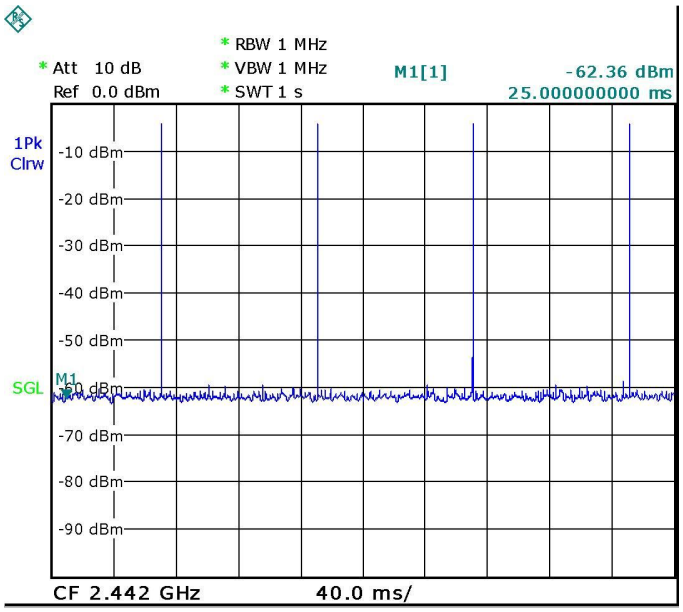
Duty cycle measurement

Date of test	:	20 January 2012
Test requirement	:	FCC Part 15 Section 15.231
Test method	:	ANSI C63.4:2003
Operating mode	:	On mode
Remarks	:	Detector function = peak

Test Result
☒ Passed
☐ Not Passed



EUT data packet off has the period of 15.8ms

Therefore, the total signal "on" time of on successful period is = 250 ms(exceed 100ms).

Average factor: 20 log 1/(0.28/100) = 51.05 dB Average = Peak – Average Factor

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6.4 Bandedge measurement

Date of test : 20 January 2012

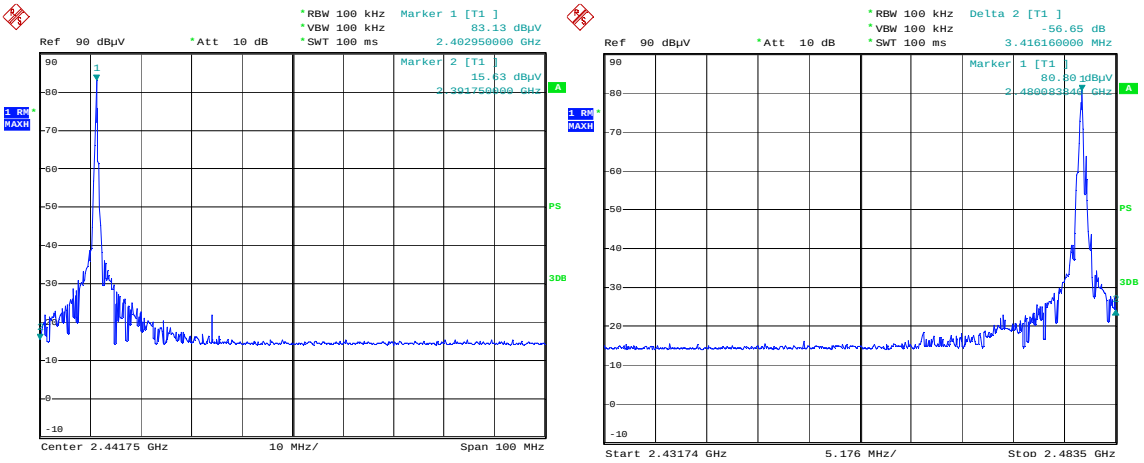
Test requirement : FCC Part 15 Section 15.249

Test method : ANSI C63.4:2003

Operating mode : On mode

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Remark: Use the following spectrum analyzer settings:
Span = wide enough to capture the peak level of the emission operating on the channel closest to the bandedge, as well as any modulation products which fall outside of the authorized band of operation
RBW ≥ 1% of the span
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
Allow the trace to stabilize. Set the marker on the emission at the bandedge, or on the highest modulation product outside of the band, if this level is greater than that at the bandedge. Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission. The marker-delta value now displayed must comply with the limit specified in this Section. Submit this plot. Now, using the same instrument settings, enable the hopping function of the EUT. Allow the trace to stabilize. Follow the same procedure listed above to determine if any spurious emissions caused by the hopping function also comply with the specified limit. Submit this plot.

Test Equipment List

Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
Antenna	Schwarbeck	VULB9160	9160-3232	Jun .04.2012
Antenna	Schwarbeck	VULB9160	9160-3233	Jun .04.2012
Amplifier	Agilent	8447D	2944A11203	Nov.26.2012
Amplifier	Agilent	8447D	2944A11204	Nov.26.2012
Spectrum Analyzer	Agilent	E4443A	MY48250370	Nov.26.2012
RF Pre-selector	Agilent	N9039A	MY46520201	Nov.26.2012
Test Cable	N/A	Cable_5m_8m_15m	N/A	Jan.28.2012
Test Cable	N/A	Cable_5m_11m_15m	N/A	Jan.28.2012
Spectrum Analyzer	Agilent	E4447A	MY48250208	Nov.26.2012
RF Pre-selector	Agilent	N9039A	MY46520214	Nov.26.2012
Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
Horn Antenna	EMCO	3115	9605-4803	May.26.2012
Amplifier	Agilent	8449B	3008A02584	Nov.26.2012
Spectrum Analyzer	Agilent	E4447A	MY48250208	Nov.26.2012
Test Cable	Huber+Suhner	SUCOFLEX_15m_4m	N/A	Apr.06.2012
Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
Temp. & Humid. Chamber	GIANT FORCE	ITH-225-20-S	IAB0309-001	Dec.06.2012
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Aug.16.2012

Uncertainty:

Contribution	Probability Distribution	Uncertainty (dB)
Total uncertainty at a minimum confidence level of 95%	Normal (k=2)	± 2.66 (correct to 1 decimal place)

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6.5 Conducted peak output power test

Date of test : 20 January 2012

Operating mode : Transmitting mode

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed

Frequency(MHz)	Maximum peak output power at antenna terminal		
	(dBm)	(mW)	W
2403	-3.71	0.426	0.0004
2442	-3.77	0.419	0.0004
2480	-3.79	0.417	0.0004
Max. peak output power at antenna terminal		0.426	0.0004

Remark: Place the EUT on a bench and set it in transmitting mode.
Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to an Spectrum analyzer.
Add a correction factor = Cable Loss + Attenuator=21dB to the display.
Set RBW=4MHz, VBW=8MHz, Span =20MHz, centre frequency = operating frequency, sweep time auto, peak detector.
Record the peak level.
Repeat above procedures until low, middle, high frequencies were complete.
This result for RF Exposure exemptions.

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Test Equipment List

Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
Antenna	Schwarbeck	VULB9160	9160-3232	Jun .04.2012
Antenna	Schwarbeck	VULB9160	9160-3233	Jun .04.2012
Amplifier	Agilent	8447D	2944A11203	Nov.26.2012
Amplifier	Agilent	8447D	2944A11204	Nov.26.2012
Spectrum Analyzer	Agilent	E4443A	MY48250370	Nov.26.2012
RF Pre-selector	Agilent	N9039A	MY46520201	Nov.26.2012
Test Cable	N/A	Cable_5m_8m_15m	N/A	Jan.28.2012
Test Cable	N/A	Cable_5m_11m_15m	N/A	Jan.28.2012
Spectrum Analyzer	Agilent	E4447A	MY48250208	Nov.26.2012
RF Pre-selector	Agilent	N9039A	MY46520214	Nov.26.2012
Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
Horn Antenna	EMCO	3115	9605-4803	May.26.2012
Amplifier	Agilent	8449B	3008A02584	Nov.26.2012
Spectrum Analyzer	Agilent	E4447A	MY48250208	Nov.26.2012
Test Cable	Huber+Suhner	SUCOFLEX_15m_4m	N/A	Apr.06.2012
Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
Temp. & Humid. Chamber	GIANT FORCE	ITH-225-20-S	IAB0309-001	Dec.06.2012
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Aug.16.2012

Uncertainty:

Contribution	Probability Distribution	Uncertainty (dB)
Total uncertainty at a minimum confidence level of 95%	Normal (k=2)	± 2.66 (correct to 1 decimal place)

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6.6 Conducted Emission Test 150kHz – 30MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15

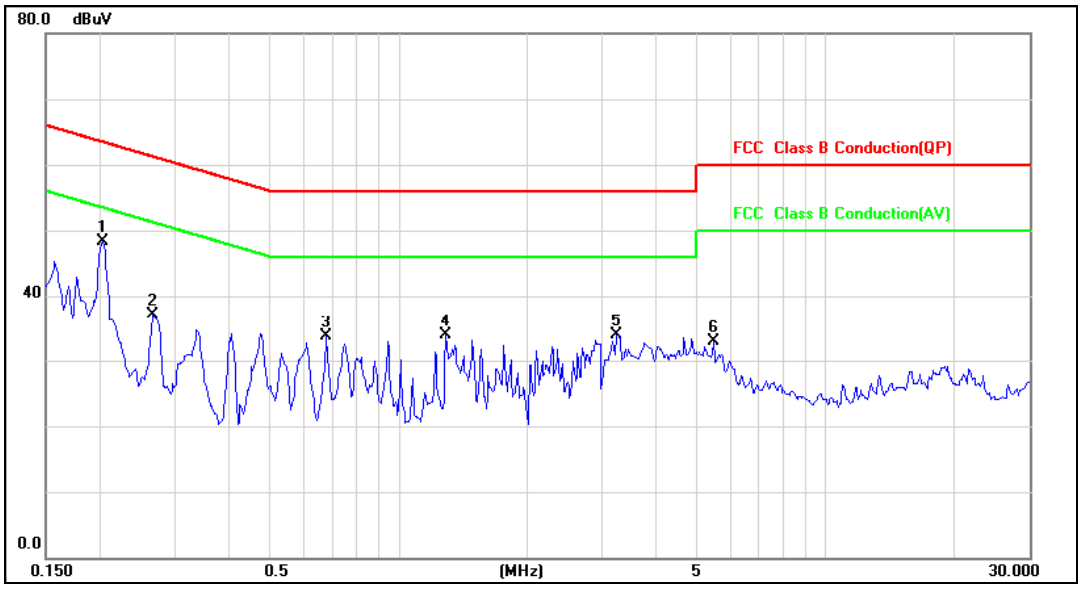
Test method : ANSI C63.4:2003

Operating mode : Normal Link

Tested on : AC Mains, Live

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Frequency (MHz)	QP Reading (dBuV)	QP Limit	Margin
0.200	48.28	63.45	-15.17
0.270	37.06	61.25	-24.19
0.680	33.62	56.00	-22.38
1.290	33.86	56.00	-22.14
3.240	34.00	56.00	-22.00
5.480	32.93	60.00	-27.07

P.S. : If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured
IF bandwidth 9kHz, RBW, 9kHz, VBW, 9kHz

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Conducted Emission Test 150kHz – 30MHz

Date of test : 20 January 2012

Test requirement : FCC Part 15

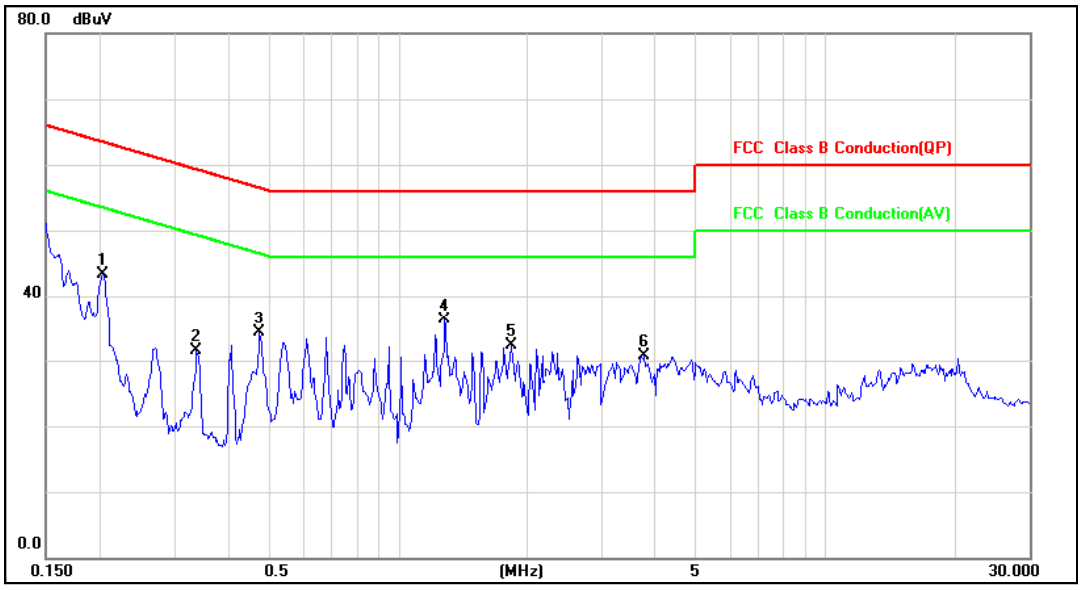
Test method : ANSI C63.4:2003

Operating mode : Normal Link

Tested on : AC Mains, Neutral

Remarks : NIL

Test Result
☒ Passed
☐ Not Passed



Frequency (MHz)	QP Reading (dBuV)	QP Limit	Margin
0.200	43.37	63.45	-20.08
0.340	31.49	59.27	-27.78
0.470	34.22	56.45	-22.23
1.280	36.26	56.00	-19.74
1.830	32.30	56.00	-23.70
3.780	30.67	56.00	-25.33

P.S. : If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured
IF bandwidth 9kHz, RBW, 9kHz, VBW, 9kHz

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Test Equipment List

Conducted Emission Test

Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
LISN	EMCO	3816/2SH	00052766	May.26.2012
Transient Limiter	Agilent	11947A	3107A03668	May.26.2012
Test Cable	N/A	C-06_C03	N/A	Mar.31.2012
EMI TEST RECEIVER	R&S	ESCS30	8333641017	May.27.2012
50Ω Terminator	SHX	TF2-3G-A	08122902	May.26.2012
LISN	R&S	ENV216	100526	May.26.2012

Uncertainty:

Contribution	Probability Distribution	Uncertainty (dB)
Total uncertainty at a minimum confidence level of 95%	Normal (k=2)	± 2.59 (correct to 1 decimal place)

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7 Appendix A

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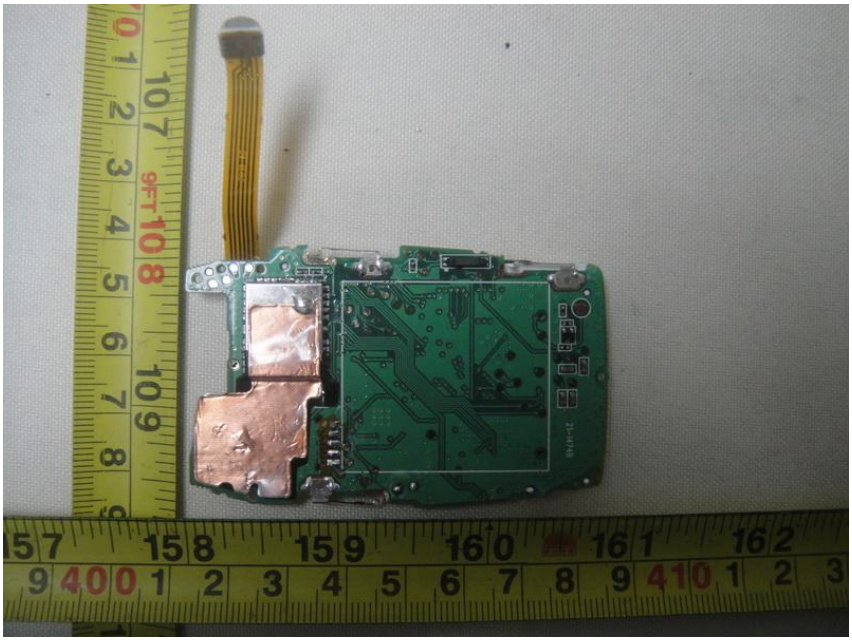
Appendix A



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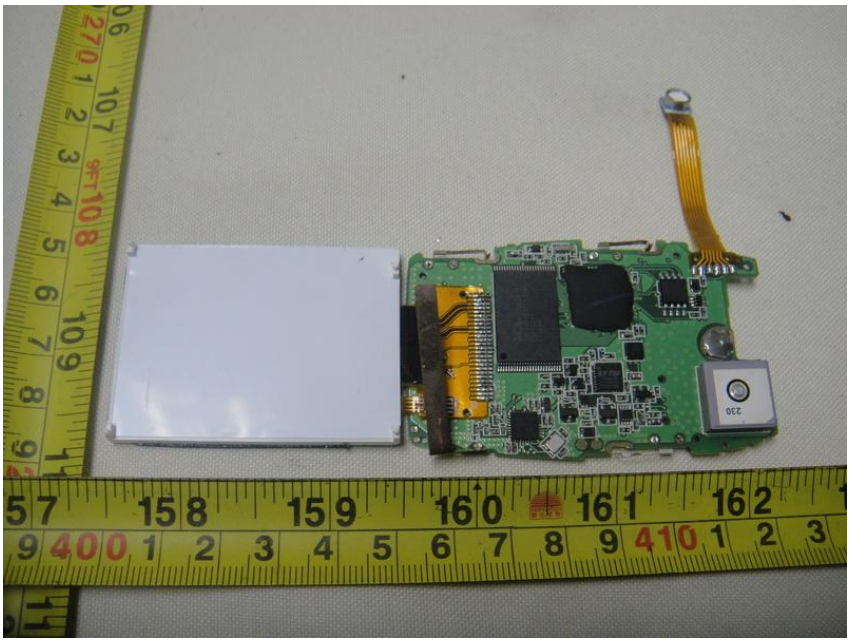
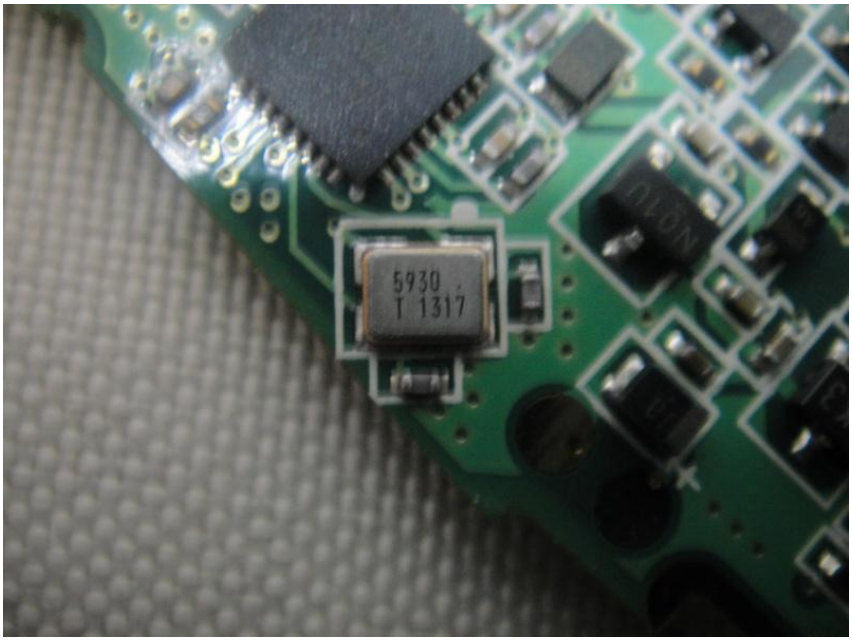
Appendix A





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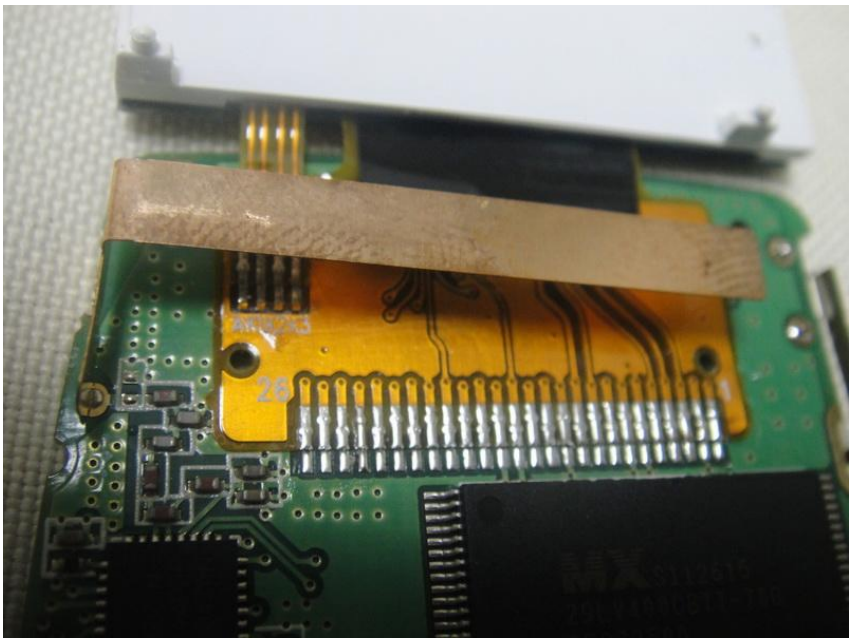
Appendix A



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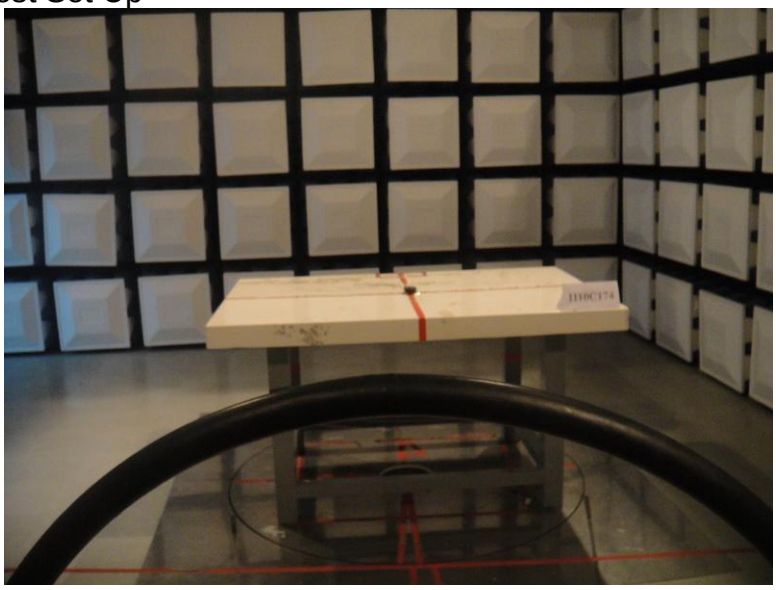
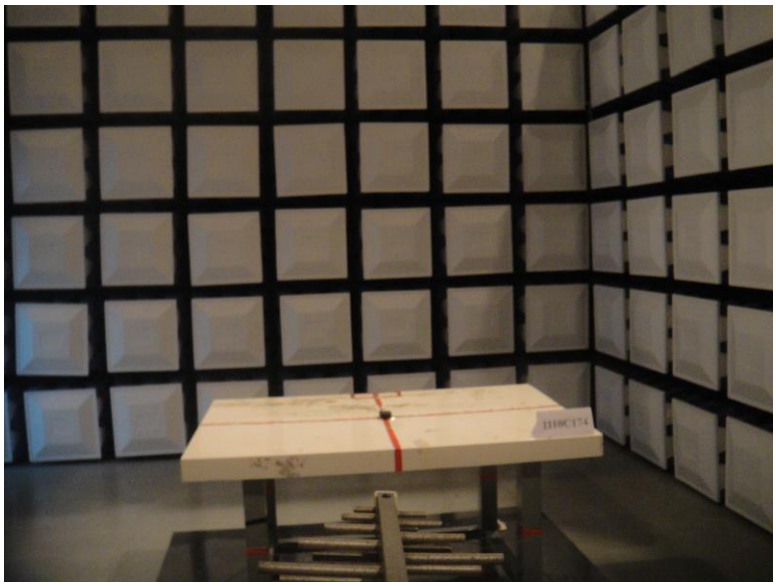
8 Appendix B

Radiated Emission Test Set Up



9kHz-30MHz



30MHz-1GHz

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Appendix B

Radiated Emission Test Set Up

1GHz above

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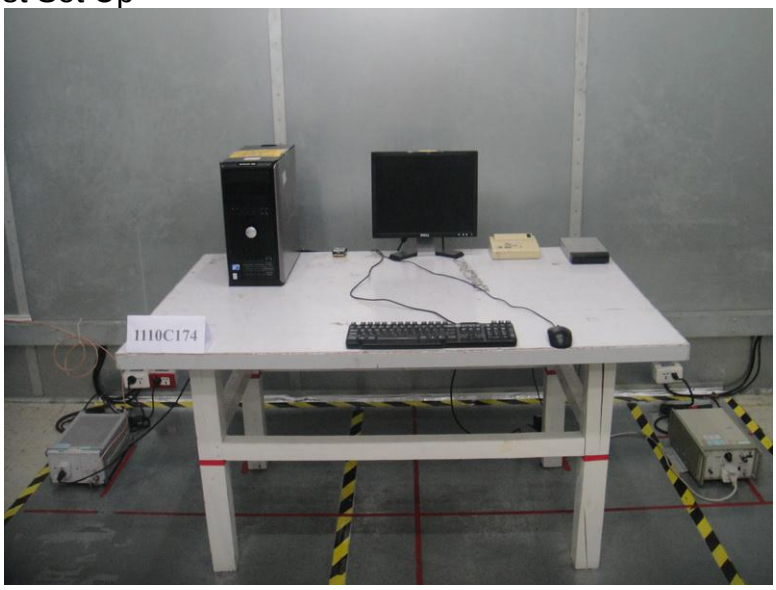
Appendix B

Conduct Emission Test Set Up



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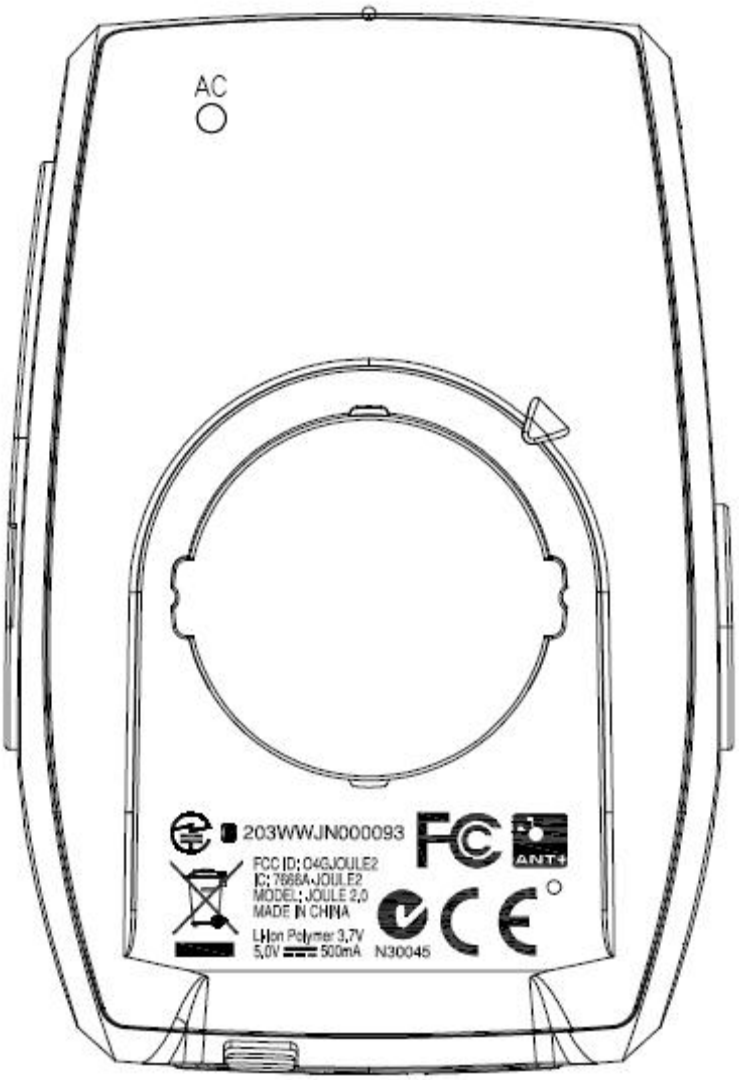
9 Appendix C



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