SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch

198 Kezhu Road, Scientech Park, Guangzhou Economic & Technological Development District, Guangzhou, China 510663
Telephone: +86 (0) 20 82155555
Fax: +86 (0) 20 82075059
Email: ee.guangzhou@sgs.com

TEST REPORT

Application No.:	GZEM1503001061CR
Applicant:	World Tech Toys, Inc
FCC ID:	2AEEQ0018183397889
Product Name:	Interceptor Spy Drone
Product Description:	Remote control Interceptor Spy Drone with 2.4 GHz as carrier.
Model No.:	34865, 35879, 35989, 35442, D-10, D-11, D-12, D-13, D-14, D-15, D-16, D-17, D-18, D-19, D-20, D-21, D-22, D-23, D-24, D-25, D-26 ♣
♣	Please refer to section 3 of this report for further details.
Standards:	CFR 47 PART 15 Subpart C: 2014 section 15.249
Date of Receipt:	2015-03-23
Date of Test:	2015-03-31
Date of Issue:	2015-04-17
Test Result :	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Jerry Chan
Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

2 Version

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
00		2015-04-17		Original

Authorized for issue by:				
Tested By		**(Lily Kuang) / Project Engineer**		2015-03-31 **Date**
Prepared By		**(June Chen) / Clerk**		2015-04-14 **Date**
Checked By		**(Jerry Chan) / Reviewer**		2015-04-17 **Date**

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

3 Test Summary

Test	Test Requirement	Test method	Result
Field Strength of Fundamental	FCC PART 15 C section 15.249 (a)	ANSI C63.10: Clause 6.6	PASS
Field Strength of Unwanted Emissions	FCC PART 15 C section 15.249 (a) section 15.249 (d)	ANSI C63.10: Clause 6.4, 6.6 and 6.7	PASS
Band Edges	FCC PART 15 C section 15.249 (d)	ANSI C63.10: Clause 6.9.2	PASS
Occupied Bandwidth	FCC PART 15 C section 15.215(c)	ANSI C63.10: Clause 6.9.1	PASS

Remark:
EUT: In this whole report EUT means Equipment Under Test.
Tx: In this whole report Tx (or tx) means Transmitter.
Rx: In this whole report Rx (or rx) means Receiver.
RF: In this whole report RF means Radio Frequency.
ANSI C63.10: the detail version is ANSI C63.10:2009 in the whole report.

♣ **Model No.:** 34865, 35879, 35989, 35442, D-10, D-11, D-12, D-13, D-14, D-15, D-16, D-17, D-18, D-19, D-20, D-21, D-22, D-23, D-24, D-25, D-26

According to the declaration from the applicant, the electrical circuit design, layout, components used and internal wiring were identical for all models, with only difference being the model name and appearance.

Therefore only one model 34865 was tested in this report.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

4 Contents

1 Cover Page 1

2 Version 2

3 Test Summary 3

4 Contents 4

5 General Information 5

5.1 Client Information 5
5.2 General Description of E.U.T. 5
5.3 Details of E.U.T. 5
5.4 Description of Support Units 5
5.5 Other Information Requested by the Customer 5
5.6 Deviation from Standards 5
5.7 Test Location 6

6 Equipment Used during Test 8

7 Test Results 9

7.1 E.U.T. Operation 9
7.2 Antenna Requirement 11
7.3 Field Strength of Fundamental& Field Strength of Unwanted Emissions& Band Edge 12
7.4 Occupied Bandwidth 27

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

5 General Information

5.1 Client Information

Applicant:	World Tech Toys, Inc
Address of Applicant:	28904 ave Paine Valencia ca 91355 USA

5.2 General Description of E.U.T.

Product Name:	Interceptor Spy Drone
Model No.:	34865

5.3 Details of E.U.T.

Operating Frequency	2402 MHz to 2480 MHz
Type of Modulation:	GFSK
Number of Channels	6
Channel Separation:	More than 5 MHz
Antenna Type	Integral Antenna
Antenna gain:	0 dBi
Function:	2.4GHz is used for common channel for data transfer. Transmitter will be hopped between 2.402GHz and 2.480GHz for searching the Receiver. When the receiver is found, this frequency will be fixed and not be changed any more.
Power Supply:	DC 6.0V= 4 x 1.5V size ”AA” batteries for TX

5.4 Description of Support Units

The EUT has been tested as an independent unit for fixed frequency by testing lab.

5.5 Other Information Requested by the Customer

None.

5.6 Deviation from Standards

Biconical and log periodic antennas were used instead of dipole antennas.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

5.7 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,
198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District,
Guangzhou, China 510663
Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **NVLAP (Lab Code: 200611-0)**

  SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

  The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

- **ACMA**

  SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.

- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

  Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

- **CNAS (Lab Code: L0167)**

  SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

- **FCC (Registration No.: 282399)**

  SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002.

- **Industry Canada (Registration No.: 4620B-1)**

  The 3m/10m Alternate Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Certification and Engineering of Industry Canada for radio equipment testing with Registration No. 4620B-1.

- **VCCI (Registration No.: R-2460, C-2584, G-449 and T-1179)**

  The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co. Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2460, C-2584，G-449 and T-1179 respectively.

- **CBTL (Lab Code: TL129)**

  SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2005, the Basic Rules, IECEE 01:2006-10 and Rules of procedure IECEE 02:2006-10, and the relevant IECEE CB-Scheme Operational documents.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

6 Equipment Used during Test

RE in Chamber						
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. date (YYYY-MM-DD)	Cal.Due date (YYYY-MM-DD)
EMC0525	Compact Semi-Anechoic Chamber	ChangZhou ZhongYu	N/A	N/A	2014-12-5	2015-12-5
EMC0522	EMI Test Receiver	Rohde & Schwarz	ESIB26	100283	2015-03-02	2016-03-02
EMC0056	EMI Test Receiver	Rohde & Schwarz	ESCI	100236	2015-04-07	2016-04-07
EMC0528	RI High frequency Cable	SGS	20 m	N/A	2014-04-19	2016-04-19
EMC2025	Trilog Broadband Antenna 30-1000MHz	SCHWARZBECK MESS-ELEKTRONIK	VULB 9160	9160-3372	2014-07-14	2017-07-14
EMC0524	Bi-log Type Antenna	Schaffner -Chase	CBL6112B	2966	2013-08-31	2016-08-31
EMC0519	Bilog Type Antenna	Schaffner -Chase	CBL6143	5070	2014-05-04	2017-05-04
EMC2026	Horn Antenna 1-18GHz	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120D	9120D-841	2013-08-31	2016-08-31
EMC0518	Horn Antenna	Rohde & Schwarz	HF906	100096	2012-07-01	2015-07-01
EMC0521	1-26.5 GHz Pre-Amplifier	Agilent	8449B	3008A01649	2015-03-02	2016-03-02
EMC2065	Amplifier	HP	8447F	N/A	2014-08-25	2015-08-25
EMC0075	310N Amplifier	Sonama	310N	272683	2015-03-02	2016-03-02
EMC0523	Active Loop Antenna	EMCO	6502	42963	2014-03-03	2016-03-03
EMC2041	Broad-Band Horn Antenna (14)15-26.5(40)GHz	SCHWARZBECK MESS-ELEKTRONI	BBHA 9170	9170-375	2014-05-26	2017-05-26
EMC2079	High Pass Filter(915MHz)	FSY MICROWAVE	HM1465-9SS	009	2015-03-02	2016-03-02
EMC2069	2.4GHz filter	Micro-Tronics	BRM 50702	149	2015-03-02	2016-03-02
EMC0530	10m Semi-Anechoic Chamber	ETS	N/A	N/A	2014-05-03	2016-05-03

General used equipment						
No.	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. date (YYYY-MM-DD)	Cal.Due date (YYYY-MM-DD)
EMC0006	DMM	Fluke	73	70681569	2014-09-15	2015-09-15
EMC0007	DMM	Fluke	73	70671122	2014-09-15	2015-09-15

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

7 Test Results

7.1 E.U.T. Operation

Test Voltage: DC 6V by "AA" new batteries x 4

Temperature: 20.0 -25.0 °C

Humidity: 38-50 % RH

Atmospheric Pressure: 1000 -1010 mbar

Test frequencies and frequency range: According to the 15.31(m) Measurements on intentional radiators or receivers, other than TV broadcast receivers, shall be performed and, if required, reported for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table:

According to the 15.33 (a) For an intentional radiator, the spectrum shall be investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to at least the frequency shown in the following table:

Number of fundamental frequencies to be tested in EUT transmit band

Frequency range in which device operates	Number of frequencies	Location in frequency range of operation
1 MHz or less	1	Middle
1 MHz to 10 MHz	2	1 near top and 1 near bottom
More than 10 MHz	3	1 near top, 1 near middle and 1 near bottom

Frequency range of radiated emission measurements

Lowest frequency generated in the device	Upper frequency range of measurement
9 kHz to below 10 GHz	10th harmonic of highest fundamental frequency or to 40 GHz, whichever is lower
At or above 10 GHz to below 30 GHz	5th harmonic of highest fundamental frequency or to 100 GHz, whichever is lower
At or above 30 GHz	5th harmonic of highest fundamental frequency or to 200 GHz, whichever is lower, unless otherwise specified

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

EUT channels and frequencies list:

Channel	Frequency (MHz)
1	2402
2	2411
3	2433
4	2440
5	2460
6	2465
7	2480

Test frequencies are the lowest channel: 1 channel(2402 MHz), middle channel: 4 channel(2440 MHz) and highest channel: 7 channel(2480MHz)

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

7.2 Antenna Requirement

Standard requirement

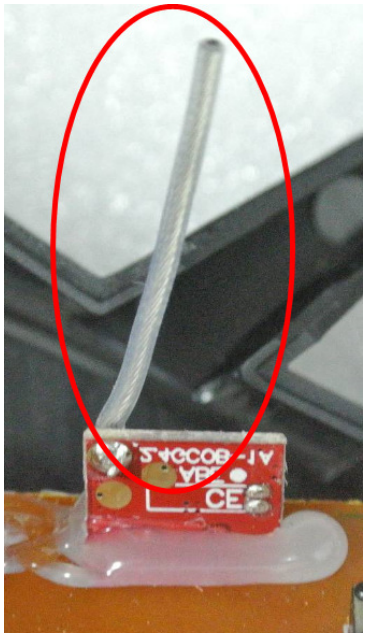
15.203 requirement:

For intentional device. According to 15.203. an intentional radiator shall be designed to

Ensure that no antenna other than that furnished by the responsible party shall be used with the device.

EUT Antenna

The antenna is an ISM Band Planar Chip Antenna integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0 dBi.



Test result: The unit does meet the FCC requirements.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

7.3 Field Strength of Fundamental& Field Strength of Unwanted Emissions& Band Edge

Test Requirement: FCC Part15 C section 15.249

(a) Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency (MHz)	Field Strength of Fundamental (dBμV/m @ 3m)	Field Strength of Harmonics (dBμV/m @ 3m)
902 to 928	94.0	54.0
2400 to 2483.5	94.0	54.0
5725 to 5875	94.0	54.0
24000 to 24250	108.0	68.0

(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

Limits: The fundamental frequency rang is in the frequency band of the EUT is 2402MHz ~ 2480MHz.

The limit for Average field strength dBμV/m for the fundamental frequency = 94.0 dBμV/m.

The limit for Peak field strength dBμV/m for the fundamental frequency = 114.0 dBμV/m.

No fundamental is allowed in the restricted bands.

The limit for average field strength dBμV/m for the harmonics = 54.0 dBμV/m.

The limit for peak field strength dBμV/m for the harmonics = 74.0 dBμV/m.

Emission radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or 54.0 dBμV/m in 15.209. Here the limit for the other emission is 54.0 dBμV/m.

Test Method: ANSI C63.10: Clause 6.4, 6.6 and 6.7 for Field Strength of Fundamental& Field Strength of Unwanted Emissions

ANSI C63.10: Clause 6.9.2 for Band Edge

Status: Pre-test the EUT in continuous transmitting mode with setup as stand-alone in X, Y, Z threes axes, found the worst case is X axes and report the data.

Measurement Distance: 3m (Semi-Anechoic Chamber)

Frequency range: 9 kHz – 25 GHz for transmitting mode.

Test instrumentation resolution bandwidth
9 kHz (9 kHz - 30 MHz), 120 kHz (30 MHz - 1000 MHz), 1 MHz (1000 MHz – 25 GHz)

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Test Procedure:

1)9 kHz to 30 MHz emissions:

For testing performed with the loop antenna, testing was performed in accordance to ANSI C63.10. The centre of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT, During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane.

2)30 MHz to 1 GHz emissions:

For testing performed with the bi-log type antenna, testing was performed in accordance to ANSI C63.10. The measurement is performed with the EUT rotated 360º, the antenna height scanned between 1m and 4m, and the antenna rotated to repeat the measurement for both the horizontal and vertical antenna polarizations.

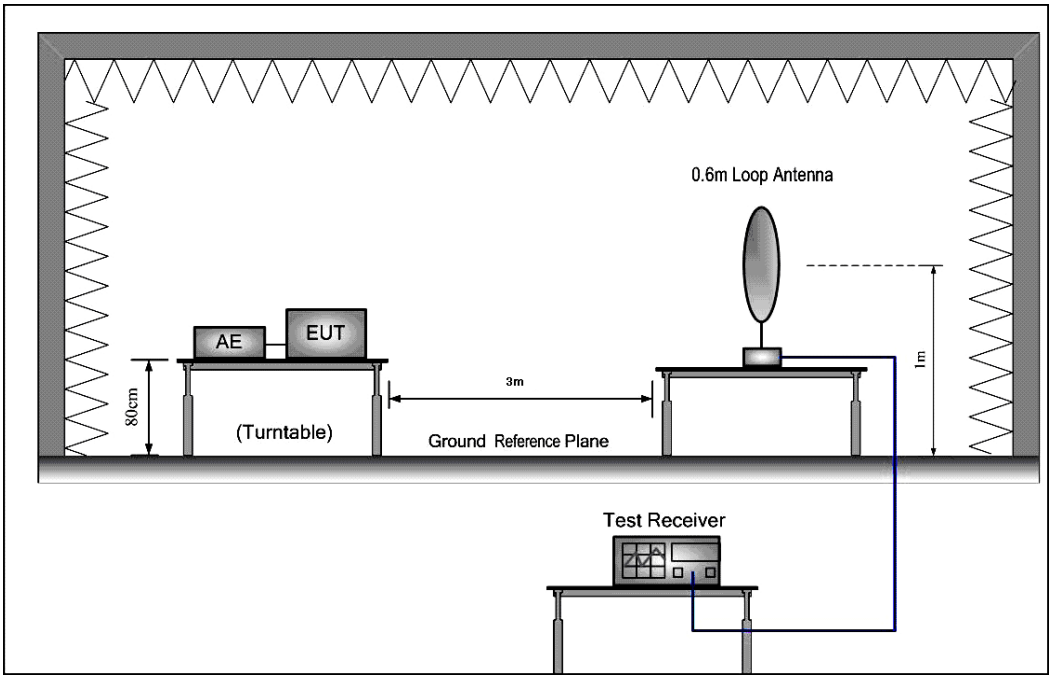
3)1 GHz to 25 GHz emissions:

Test site with RF absorbing material covering the ground plane that met the site validation criterion called out in CISPR 16-1-4:2007 was used to perform radiated emission test above 1 GHz.

For testing performed with the horn antenna, testing was performed in accordance to ANSI C63.10. The measurement is performed with the EUT rotated 360º, the antenna height scan between 1m and 4m, and the antenna rotated to repeat the measurement for both the horizontal and vertical antenna polarizations.

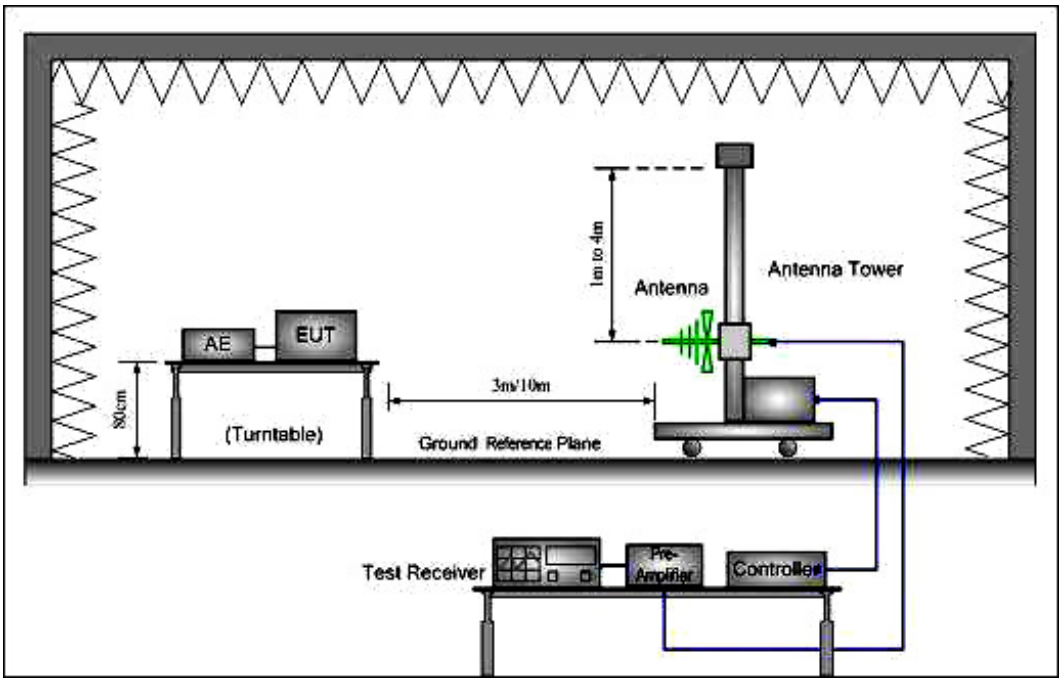
Test Configuration:

1) 9 kHz to 30 MHz emissions:

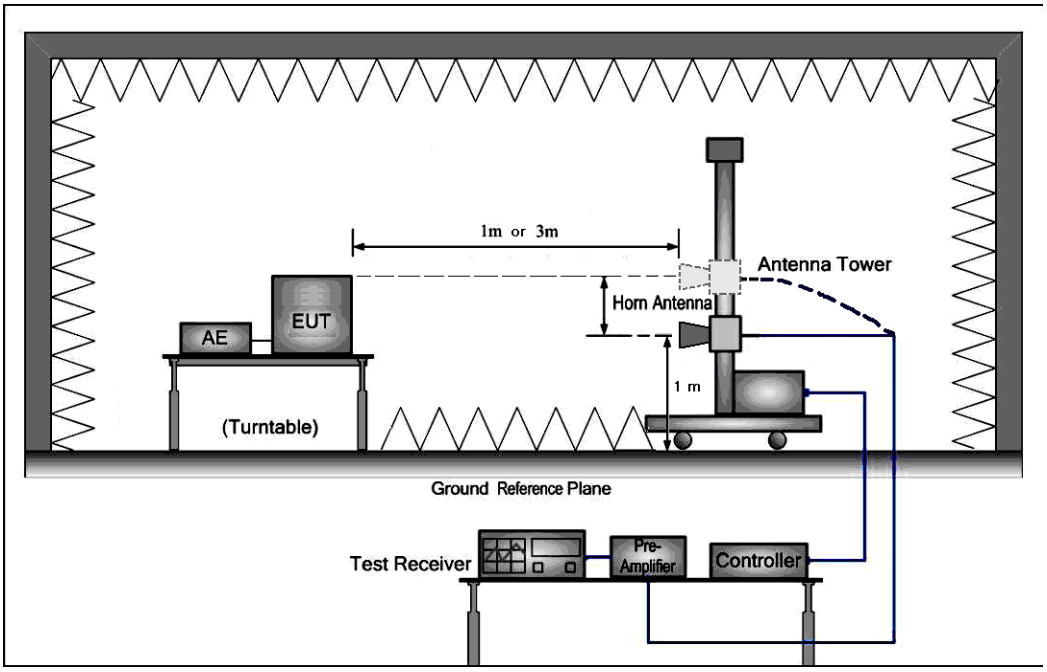


This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

2) 30 MHz to 1 GHz emissions:



3) 1 GHz to 25 GHz emissions:



The field strength is calculated by adding the Antenna Factor, Cable Loss & Per-amplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Loss – Preamplifier Factor

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Test at low Channel in transmitting status

9 kHz~30 MHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement

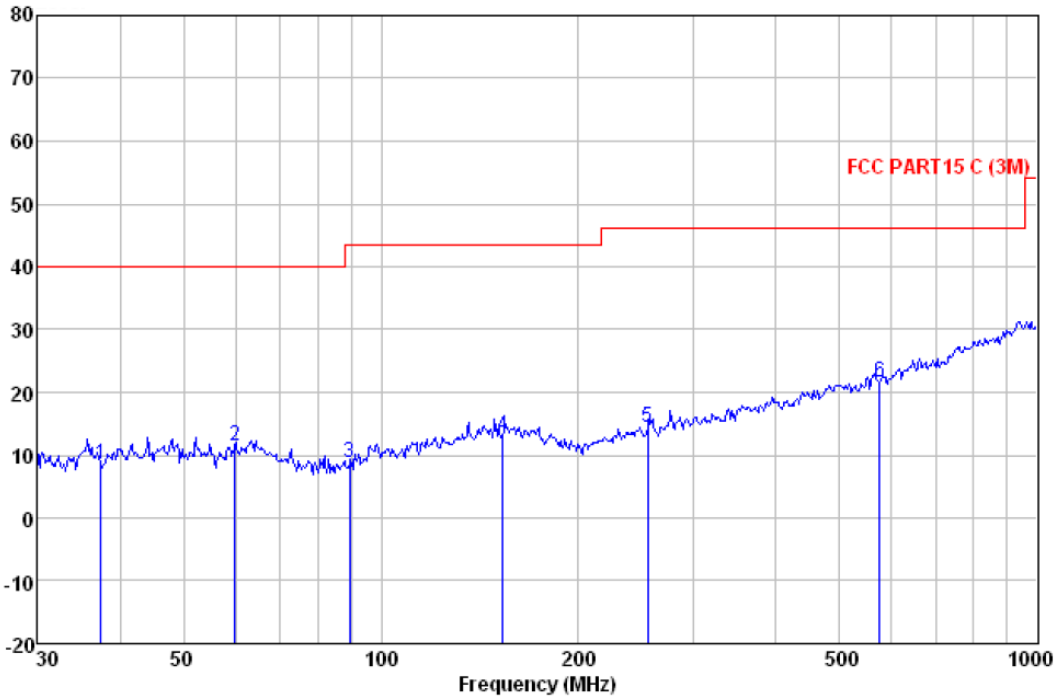
The measurements with active loop antenna were greater than 20dB below the limit, so the test data were not recorded in the test report.

30 MHz~1 GHz Field Strength of Unwanted Emissions.Quasi-Peak Measurement

Vertical:

Peak scan

Level (dBµV/m)



Quasi-peak measurement

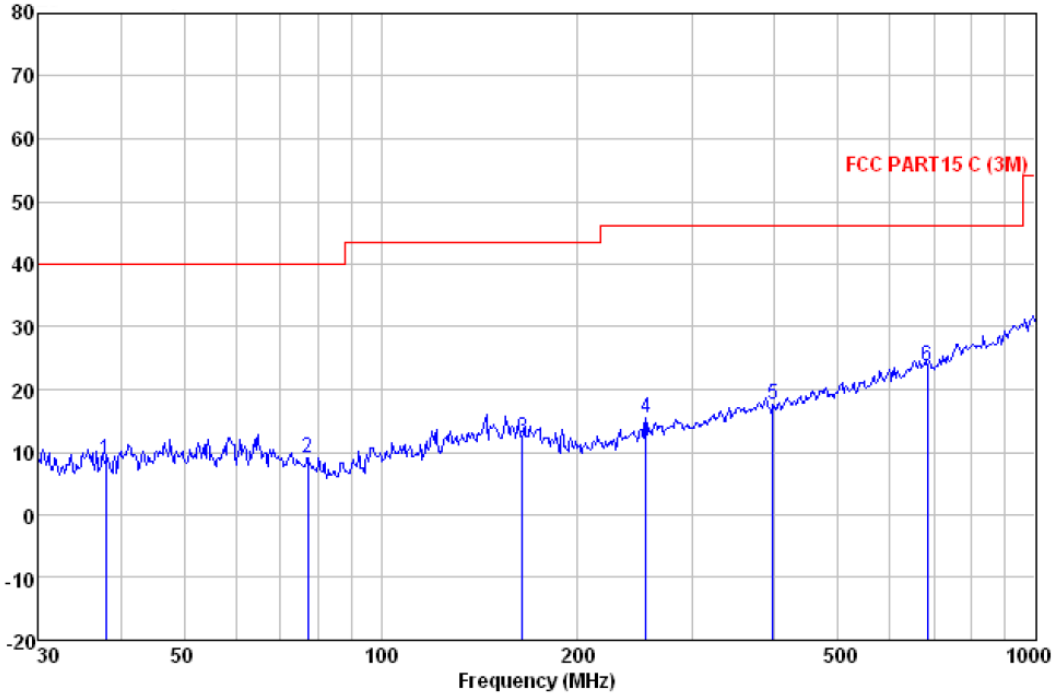
Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
37.416	26.11	12.50	0.96	31.01	8.56	40.00	-31.44	
59.859	28.79	12.66	1.10	31.00	11.55	40.00	-28.45	
89.590	29.14	9.26	1.30	31.00	8.70	43.50	-34.80	
153.200	28.64	13.89	1.69	31.07	13.15	43.50	-30.35	
254.728	31.30	12.05	2.21	31.03	14.53	46.00	-31.47	
574.626	30.91	18.46	3.18	30.92	21.63	46.00	-24.37	

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Horizontal:

Peak scan

Level (dBµV/m)



Quasi-peak measurement

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
37.945	26.40	12.53	0.96	31.01	8.88	40.00	-31.12	
77.321	29.36	9.32	1.28	31.00	8.96	40.00	-31.04	
164.330	28.03	13.60	1.77	31.08	12.32	43.50	-31.18	
253.837	32.32	12.03	2.21	31.03	15.53	46.00	-30.47	
397.633	30.55	15.26	2.80	30.90	17.71	46.00	-28.29	
684.745	31.37	19.93	3.47	30.90	23.87	46.00	-22.13	

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

1~25 GHz Field Strength of Fundamental & Field Strength of Unwanted Emissions.

Peak & Average Measurement

Peak Measurement:							
Frequency (MHz)	**Antenna factors (dB/m)**	**Cable loss (dB)**	**Preamp factor (dB)**	**Reading Level (dBμV)**	**Emission Level (dBμV/m)**	**Limit (dBμV/m)**	**Antenna polarization**
2402.00	27.58	8.17	38.25	81.94	79.44	114.00	V
4804.00	31.53	11.11	38.57	44.63	48.70	74.00	V
7206.00	36.47	13.34	38.84	39.05	50.02	74.00	V
9608.00	38.08	14.61	39.70	41.23	54.22	74.00	V
2402.00	27.58	8.17	38.25	83.07	80.57	114.00	H
4804.00	31.53	11.11	38.57	44.31	48.38	74.00	H
7206.00	36.47	13.34	38.84	42.01	52.98	74.00	H
9608.00	38.08	14.61	39.70	41.87	54.86	74.00	H
Average Measurement:							
Frequency (MHz)	**Antenna factors (dB/m)**	**Cable loss (dB)**	**Preamp factor (dB)**	**Reading Level (dBμV)**	**Emission Level (dBμV/m)**	**Limit (dBμV/m)**	**Antenna polarization**
2402.00	27.58	8.17	38.25	71.11	68.61	94.00	V
4804.00	31.53	11.11	38.57	34.93	39.00	54.00	V
7206.00	36.47	13.34	38.84	30.61	41.58	54.00	V
9608.00	38.08	14.61	39.70	31.61	44.60	54.00	V
2402.00	27.58	8.17	38.25	69.31	66.81	94.00	H
4804.00	31.53	11.11	38.57	34.65	38.72	54.00	H
7206.00	36.47	13.34	38.84	35.35	46.32	54.00	H
9608.00	38.08	14.61	39.70	33.27	46.26	54.00	H

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Band Edge:

Peak Measurement:							
Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2400.00	27.63	8.17	38.25	46.29	43.84	74.00	V
2483.50	27.55	8.28	38.26	45.96	43.53	74.00	V
2400.00	27.63	8.17	38.25	43.23	40.78	74.00	H
2483.50	27.55	8.28	38.26	46.41	43.98	74.00	H
verage Measurement:							
Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2400.00	27.63	8.17	38.25	39.47	37.02	54.00	V
2483.50	27.55	8.28	38.26	37.52	35.09	54.00	V
2400.00	27.63	8.17	38.25	39.21	36.76	54.00	H
2483.50	27.55	8.28	38.26	39.60	37.17	54.00	H

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Test at middle Channel in transmitting status

9 kHz~30 MHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement

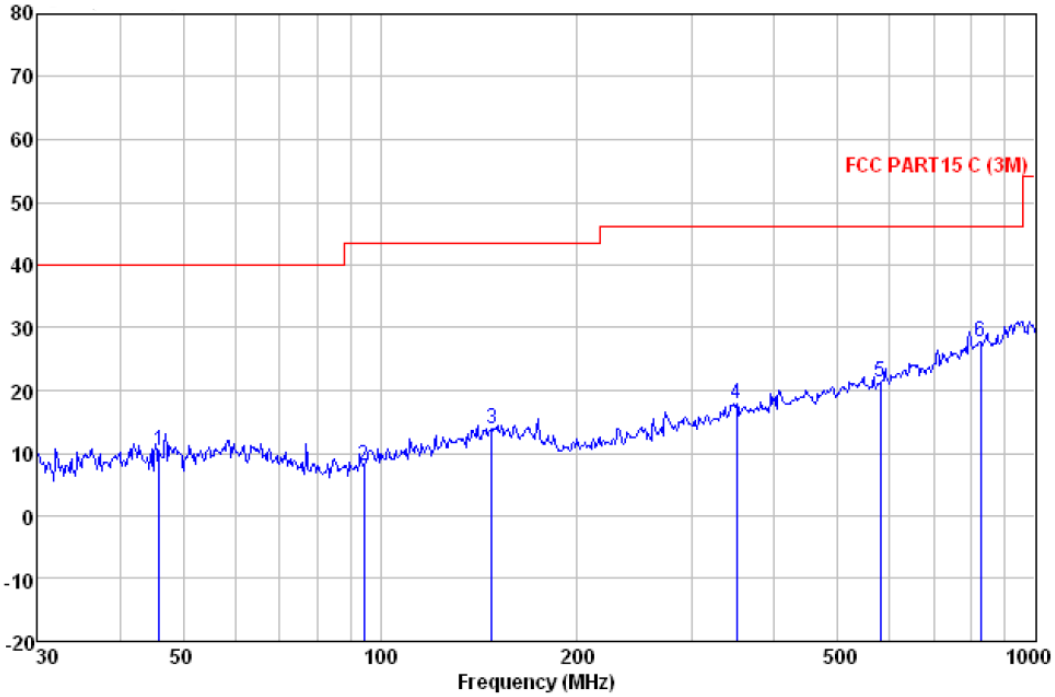
The measurements with active loop antenna were greater than 20dB below the limit, so the test data were not recorded in the test report.

30 MHz~1 GHz Field Strength of Unwanted Emissions.Quasi-Peak Measurement

Vertical:

Peak scan

Level (dBµV/m)



Quasi-peak measurement

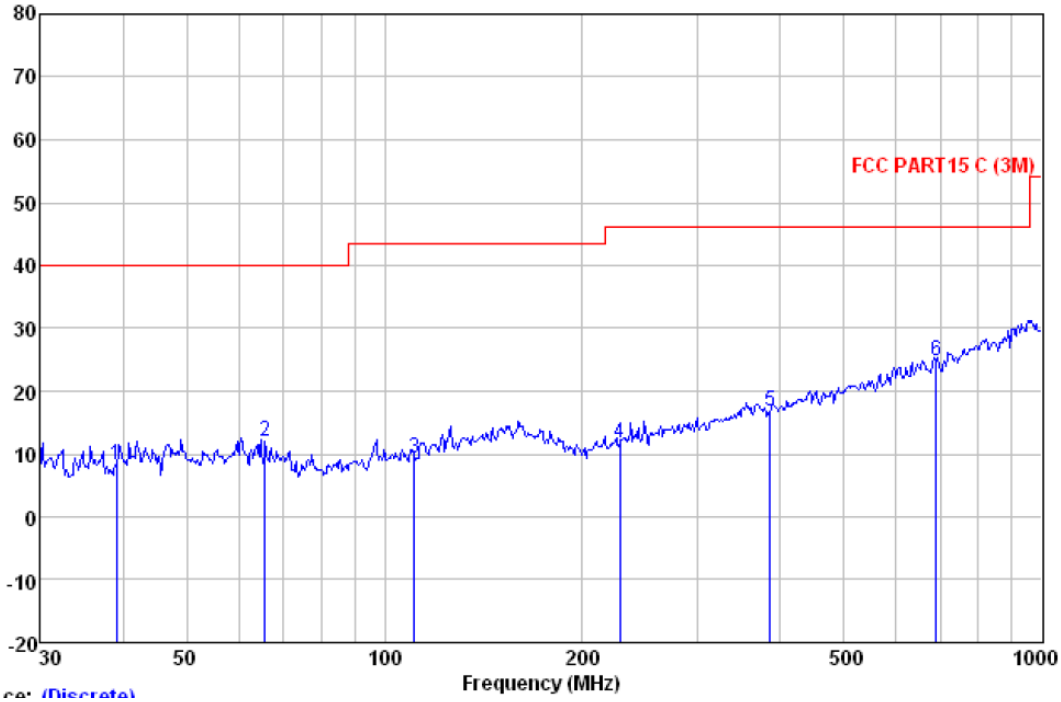
Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
46.016	27.65	12.72	1.06	31.00	10.43	40.00	-29.57	
94.428	28.03	9.69	1.34	31.00	8.06	43.50	-35.44	
147.921	29.57	13.82	1.63	31.06	13.96	43.50	-29.54	
350.477	31.86	14.27	2.60	30.94	17.79	46.00	-28.21	
580.703	30.35	18.62	3.19	30.92	21.24	46.00	-24.76	
824.597	32.77	21.93	3.83	30.90	27.63	46.00	-18.37	

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Horizontal:

Peak scan

Level (dBµV/m)



Quasi-peak measurement

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
39.162	25.58	12.64	0.98	31.01	8.19	40.00	-31.81	
65.803	29.65	12.13	1.16	31.00	11.94	40.00	-28.06	
110.957	27.90	11.14	1.43	31.01	9.46	43.50	-34.04	
227.691	29.65	11.11	1.99	31.07	11.68	46.00	-34.32	
385.281	29.94	14.98	2.77	30.91	16.78	46.00	-29.22	
689.565	32.26	20.03	3.48	30.90	24.87	46.00	-21.13	

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

1~25 GHz Field Strength of Fundamental & Field Strength of Unwanted Emissions.

Peak & Average Measurement

Peak Measurement:							
Frequency (MHz)	**Antenna factors (dB/m)**	**Cable loss (dB)**	**Preamp factor (dB)**	**Reading Level (dBμV)**	**Emission Level (dBμV/m)**	**Limit (dBμV/m)**	**Antenna polarization**
2440.00	27.57	8.24	38.26	82.89	80.44	114.00	V
4880.00	31.57	11.19	38.56	43.93	48.13	74.00	V
7320.00	36.50	13.37	38.88	43.75	54.74	74.00	V
9760.00	38.46	14.75	39.74	42.64	56.11	74.00	V
2440.00	27.57	8.24	38.26	85.64	83.19	114.00	H
4880.00	31.57	11.19	38.56	44.03	48.23	74.00	H
7320.00	36.50	13.37	38.88	40.35	51.34	74.00	H
9760.00	38.46	14.75	39.74	41.16	54.63	74.00	H
Average Measurement:							
Frequency (MHz)	**Antenna factors (dB/m)**	**Cable loss (dB)**	**Preamp factor (dB)**	**Reading Level (dBμV)**	**Emission Level (dBμV/m)**	**Limit (dBμV/m)**	**Antenna polarization**
2440.00	27.57	8.24	38.26	71.39	68.94	94.00	V
4880.00	31.57	11.19	38.56	36.08	40.28	54.00	V
7320.00	36.50	13.37	38.88	29.49	40.48	54.00	V
9760.00	38.46	14.75	39.74	33.71	47.18	54.00	V
2440.00	27.57	8.24	38.26	71.96	69.51	94.00	H
4880.00	31.57	11.19	38.56	36.16	40.36	54.00	H
7320.00	36.50	13.37	38.88	34.03	45.02	54.00	H
9760.00	38.46	14.75	39.74	33.57	47.04	54.00	H

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Band Edge:

Peak Measurement:							
Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2400.00	27.63	8.17	38.25	46.33	43.88	74.00	V
2483.50	27.55	8.28	38.26	46.52	44.09	74.00	V
2400.00	27.63	8.17	38.25	46.14	43.69	74.00	H
2483.50	27.55	8.28	38.26	46.25	43.82	74.00	H
Average Measurement:							
Frequency (MHz)	Antenna factors (dB/m)	Cable loss (dB)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Antenna polarization
2400.00	27.63	8.17	38.25	37.55	35.10	54.00	V
2483.50	27.55	8.28	38.26	38.53	36.10	54.00	V
2400.00	27.63	8.17	38.25	38.27	35.82	54.00	H
2483.50	27.55	8.28	38.26	37.79	35.36	54.00	H

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Test at high Channel in transmitting status

9 kHz~30 MHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement

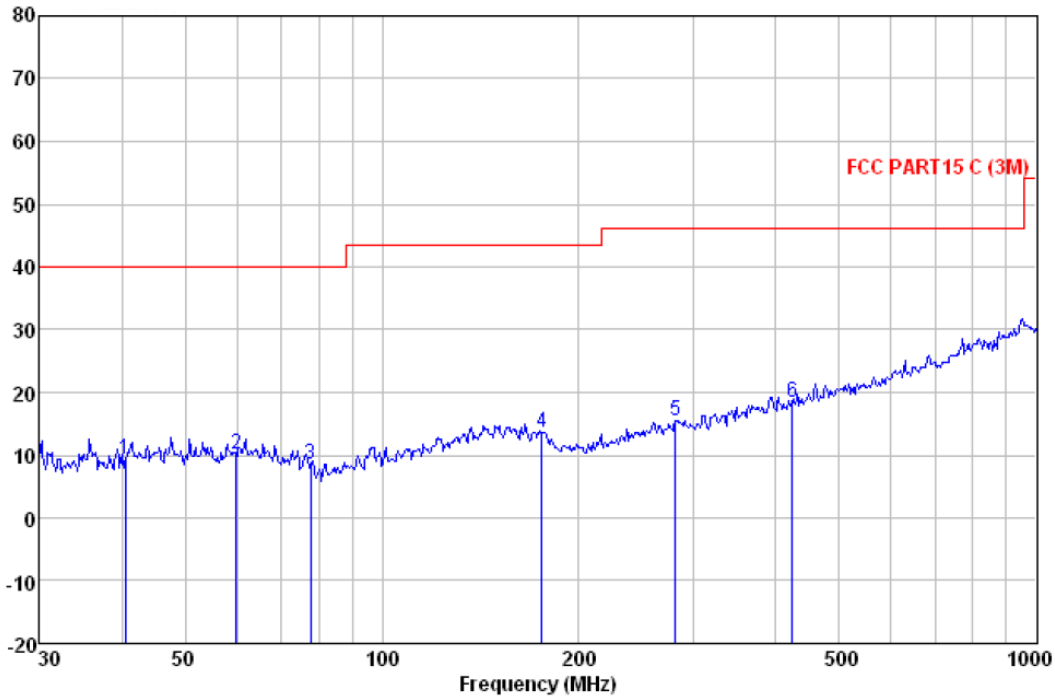
The measurements with active loop antenna were greater than 20dB below the limit, so the test data were not recorded in the test report.

30 MHz~1 GHz Field Strength of Unwanted Emissions.Quasi-Peak Measurement

Vertical:

Peak scan

Level (dBµV/m)



Quasi-peak measurement

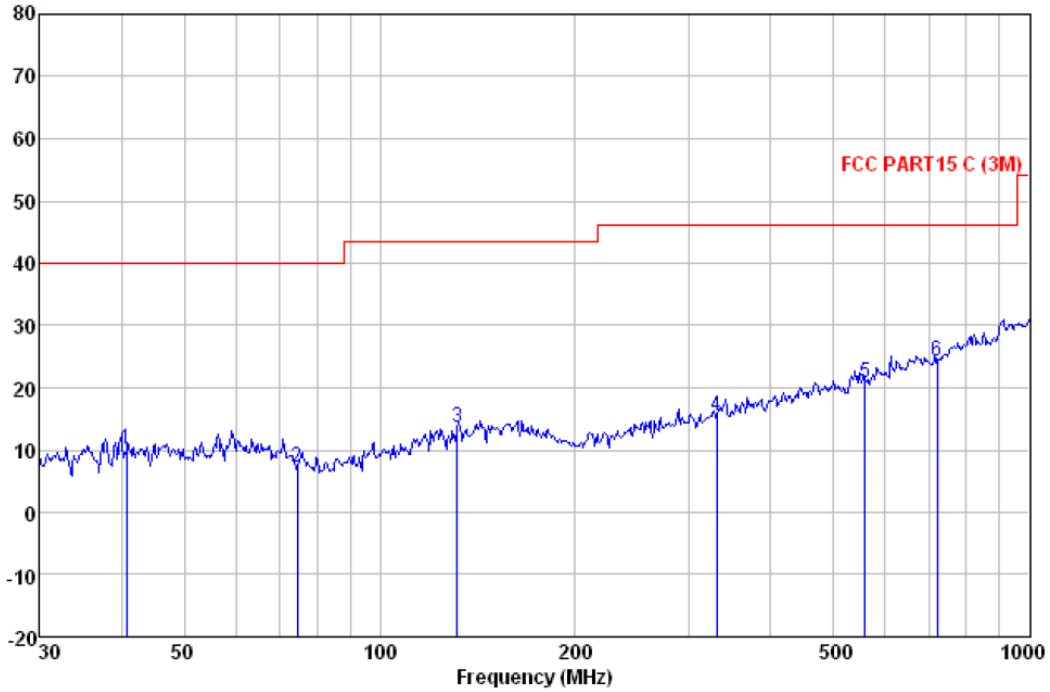
Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
40.559	26.72	12.71	1.01	31.01	9.43	40.00	-30.57	
59.859	27.35	12.66	1.10	31.00	10.11	40.00	-29.89	
77.865	28.96	9.22	1.28	31.00	8.46	40.00	-31.54	
175.652	30.02	12.79	1.83	31.09	13.55	43.50	-29.95	
281.008	31.34	12.83	2.35	31.01	15.51	46.00	-30.49	
423.540	30.63	15.79	2.84	30.92	18.34	46.00	-27.66	

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Horizontal:

Peak scan

Level (dBµV/m)



Quasi-peak measurement

Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
40.702	27.55	12.71	1.01	31.01	10.26	40.00	-29.74	
74.657	27.04	9.92	1.25	31.00	7.21	40.00	-32.79	
131.758	30.32	12.74	1.50	31.03	13.53	43.50	-29.97	
330.195	30.10	13.87	2.48	30.97	15.48	46.00	-30.52	
558.730	30.40	18.12	3.17	30.93	20.76	46.00	-25.24	
721.726	31.12	20.55	3.54	30.90	24.31	46.00	-21.69	

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

1~25 GHz Field Strength of Fundamental & Field Strength of Unwanted Emissions.

Peak & Average Measurement

Peak Measurement:							
Frequency (MHz)	**Antenna factors (dB/m)**	**Cable loss (dB)**	**Preamp factor (dB)**	**Reading Level (dBμV)**	**Emission Level (dBμV/m)**	**Limit (dBμV/m)**	**Antenna polarization**
2480.00	27.56	8.28	38.26	81.35	78.93	114.00	V
4960.00	31.70	11.27	38.56	42.74	47.15	74.00	V
7440.00	36.60	13.42	38.91	43.08	54.19	74.00	V
9920.00	38.65	14.86	39.78	42.88	56.61	74.00	V
2480.00	27.56	8.28	38.26	82.63	80.21	114.00	H
4960.00	31.70	11.27	38.56	42.99	47.40	74.00	H
7440.00	36.60	13.42	38.91	37.78	48.89	74.00	H
9920.00	38.65	14.86	39.78	39.57	53.30	74.00	H
Average Measurement:							
Frequency (MHz)	**Antenna factors (dB/m)**	**Cable loss (dB)**	**Preamp factor (dB)**	**Reading Level (dBμV)**	**Emission Level (dBμV/m)**	**Limit (dBμV/m)**	**Antenna polarization**
2480.00	27.56	8.28	38.26	70.99	68.57	94.00	V
4960.00	31.70	11.27	38.56	35.40	39.81	54.00	V
7440.00	36.60	13.42	38.91	31.80	42.91	54.00	V
9920.00	38.65	14.86	39.78	31.21	44.94	54.00	V
2480.00	27.56	8.28	38.26	71.67	69.25	94.00	H
4960.00	31.70	11.27	38.56	34.65	39.06	54.00	H
7440.00	36.60	13.42	38.91	31.41	42.52	54.00	H
9920.00	38.65	14.86	39.78	33.78	47.51	54.00	H

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Band Edge:

Peak Measurement:							
Frequency (MHz)	**Antenna factors (dB/m)**	**Cable loss (dB)**	**Preamp factor (dB)**	**Reading Level (dBμV)**	**Emission Level (dBμV/m)**	**Limit (dBμV/m)**	**Antenna polarization**
2400.00	27.63	8.17	38.25	45.06	42.61	74.00	V
2483.50	27.55	8.28	38.26	46.87	44.44	74.00	V
2400.00	27.63	8.17	38.25	45.78	43.33	74.00	H
2483.50	27.55	8.28	38.26	46.71	44.28	74.00	H
Average Measurement:							
Frequency (MHz)	**Antenna factors (dB/m)**	**Cable loss (dB)**	**Preamp factor (dB)**	**Reading Level (dBμV)**	**Emission Level (dBμV/m)**	**Limit (dBμV/m)**	**Antenna polarization**
2400.00	27.63	8.17	38.25	36.37	33.92	54.00	V
2483.50	27.55	8.28	38.26	37.45	35.02	54.00	V
2400.00	27.63	8.17	38.25	37.66	35.21	54.00	H
2483.50	27.55	8.28	38.26	41.38	38.95	54.00	H

Remark:

1). The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Loss –Preamplifier Factor.

2). As shown in Section, for frequencies above 1000 MHz. the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

3). The test only perform the EUT in transmitting status since the test frequencies were over 1GHz only required transmitting status.

4). For Radiated Emissions fall in the restricted bands (2400MHz is worse case than 2390MHz and report it as above), which set out in Section 15.205 Restricted bands.

Also there is not any other emission which falls in restricted bands can be detected and reported.

Test result: The unit does meet the FCC requirements.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

7.4 Occupied Bandwidth

Test Requirement: FCC Part 15 C section 15.249

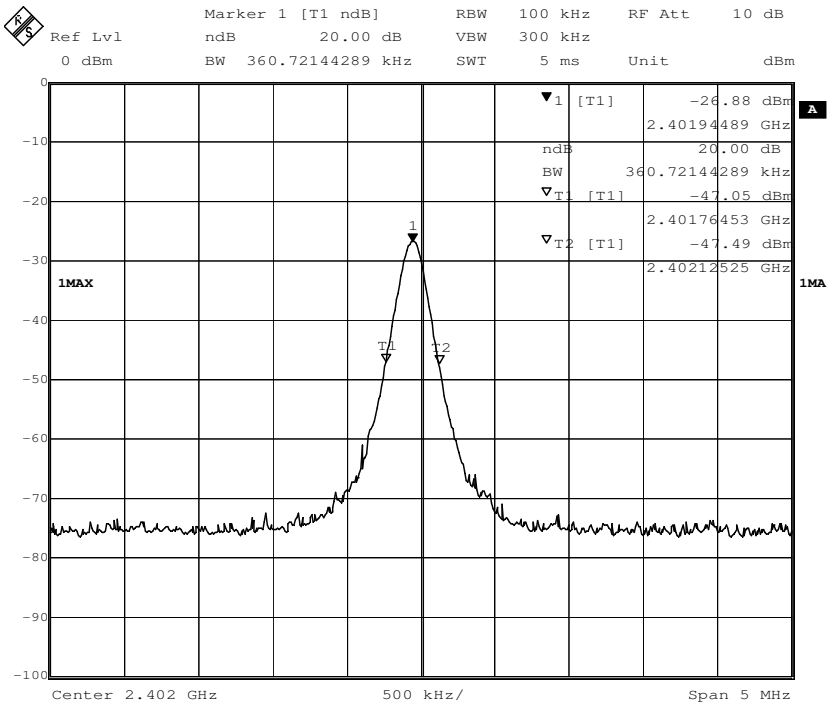
(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

Test Method: ANSI C63.10: Clause 6.9.1

Operation within the band 2.400 to 2.4835 GHz

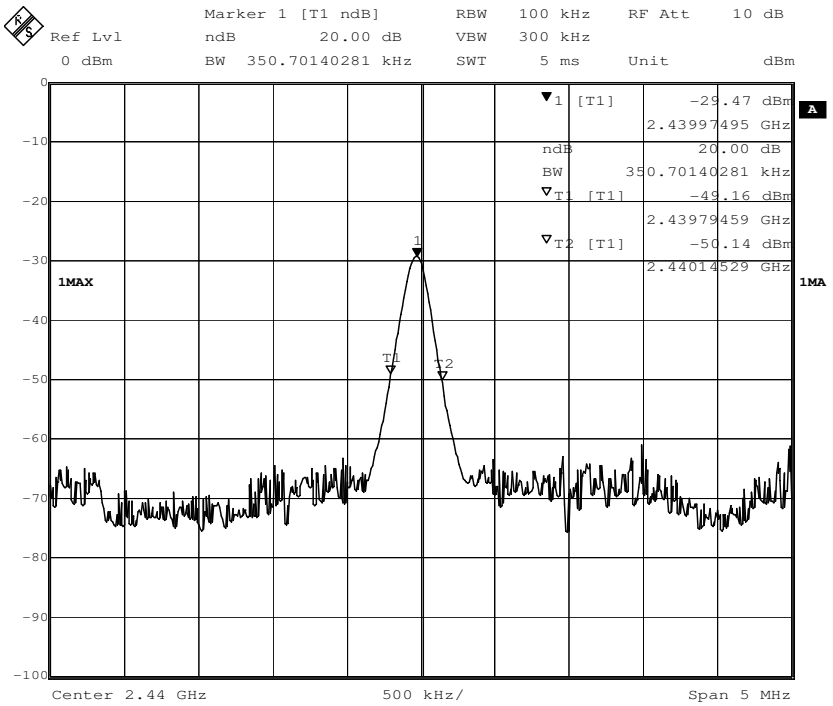
Method of measurement: A small sample of the transmitter output was fed into the Spectrum Analyzer and the attached plot was taken.

1.Test in the lowest frequency 2.402 GHz

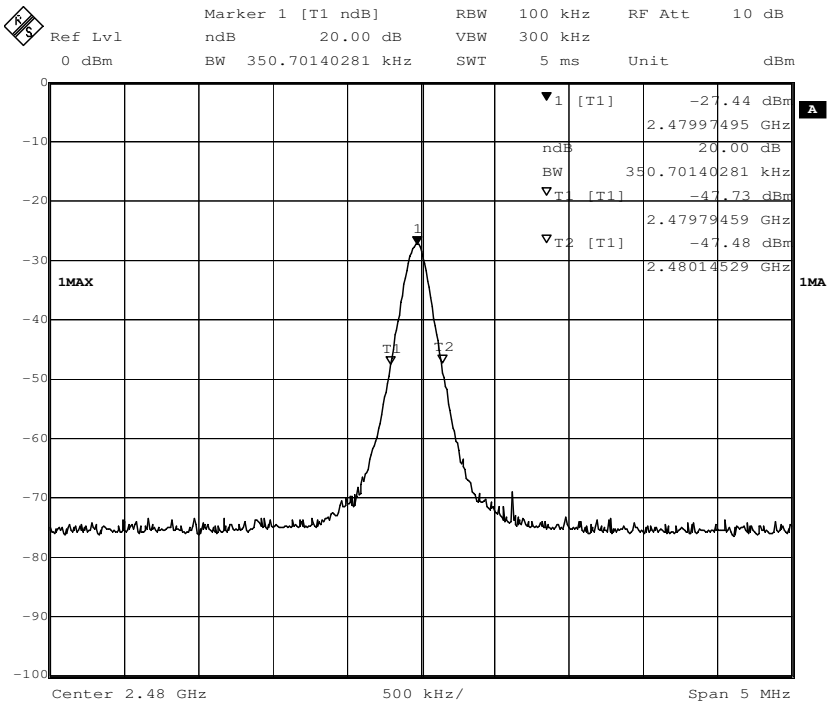


This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

2.Test in the middle frequency 2.440 GHz



3.Test in the highest frequency 2.480 GHz



The results: The unit does meet the FCC requirements.

--End of the report--

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspxand,for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.