



FCC LISTED,  
REGISTRATION  
NUMBER: 905266

IC LISTED,  
REGISTRATION  
NUMBER: IC 4621

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## TEST REPORT

**Report No.: 23133RET**

**TEST NAME:** FCC PART 22, PART 24 & PART 15 (Electromagnetic emissions)

**Product** : GE863-GPS  
**Trade Mark** : TELIT  
**Model/type Ref.** : GE863  
**Manufacturer** : TELIT COMMUNICATIONS S.p.A  
**Requested by** : TELIT COMMUNICATIONS S.p.A  
**Other identification of the product** : FCC ID: RI7GE863G  
IC: 5131A-GE863G  
**Standard(s)** : FCC Part 22 & 24  
FCC Part 15, Subpart B y C

This test report includes 4 annexes and therefore the total number of pages is 59

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Date: 2006-03-21	Test operator A. Llamas/R. López 	Revised by: Date: 2006-03-21 J.C. Bolet 	Approved by: Date: 2006-03-21 A. Rojas  Technical Director	Page: 1 of 9
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## ANNEXES

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ANNEX C. MEASURING RESULTS FOR ELECTROMAGNETIC EMISSION

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## 1. COMPETENCE AND GUARANTEES

Centro de Tecnología de las Comunicaciones (CETECOM), S.A. is a laboratory with a measurement facility in compliance with the requirements of Section 2.948 of the FCC rules and has been added to the list of facilities whose measurements data will be accepted in conjunction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Registration Number: 905266.

Centro de Tecnología de las Comunicaciones (CETECOM), S.A. is a laboratory with a measurement site in compliance with the requirements of RSS 212, Issue 1 (Provisional) and has been added to the list of filed sites of the Canadian Certification and Engineering Bureau. Reference File Number: IC 4621.

In order to assure the traceability to other national and international laboratories, CETECOM has a calibration and maintenance programme for its measuring equipment.

CETECOM guarantees the reliability of the data presented in this report, which is the result of measurements and tests performed to the item under test on the date and under the conditions stated on the report and is based on the knowledge and technical facilities available at CETECOM at the time of execution of the test.

CETECOM is liable to the client for the maintenance by its personnel of the confidentiality of all information related to the item under test and the results of the test.

## 2. GENERAL CONDITIONS

1. This report only refers to the item that has undergone the test.
2. This report does not constitute or imply by its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without written approval of CETECOM.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written approval of CETECOM and the Accreditation Bodies.

## 3. CHARACTERISTICS OF THE TEST

### 3.1 TEST REQUESTED

1. Measurements for PCS 850 and PCS 1900 devices according to FCC parts 22 and 24:

-Radiated emissions.

2. Continuous conducted emission, power leads:

Standard: FCC Rules and Regulations 47 CFR Part 15

Limit: Class B

Method: FCC Rules and Regulations 47 CFR Part 15, Subpart B y C

3. Radiated emission, electromagnetic field:

Standard: FCC Rules and Regulations 47 CFR Part 15

Limit: Class B

Method: FCC Rules and Regulations 47 CFR Part 15, Subpart B

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### 3.2 REQUIREMENTS AND METHOD

The test has been carried out according to the following documents and standards:

1. FCC part 22.
2. FCC part 24.
3. FCC Rules and Regulations 47 CFR Part 15, Subpart B: Limits and methods of measurements for radio frequency devices. Unintentional radiators.
4. FCC Rules and Regulations 47 CFR Part 15, Subpart C: Limits and methods of measurements for radio frequency devices. Intentional radiators.

Radiated testing was performed in Cetecom's semi-anechoic chamber. This site has been fully described in a report submitted to the FCC and was accepted in a letter dated July 25, 2002. Radiated measurements were made in accordance with the general procedures of ANSI C63.4 and substitution method according to TIA/EIA 603.

The testing procedures used are:

1. PEEM001: Medida de la tensión perturbadora en bornes de alimentación según EN 55022.
2. PEEM002: Medida del campo perturbador radiado según EN 55022.

Uncertainty (factor k=2) was calculated according to the following CETECOM's internal documents:

1. PODT000: Procedimiento para el cálculo de incertidumbres de medida
2. FEM12\_07: Formato de cálculo de incertidumbre a aplicar en la medida de la tensión perturbadora en bornes de alimentación según EN 55022.
3. FEM13\_08: Formato de cálculo de incertidumbre a aplicar en la medida del campo perturbador radiado según EN 55022.
4. FET298\_01: Formato de cálculo de incertidumbre a aplicar en la medida del campo perturbador radiado entre 1 y 25 GHz.

The instrumentation used to perform the testing is listed below:

1. Semianechoic Absorber Lined Chamber IR 11. BS.
2. Control Chamber IR 12.BC.
3. Spectrum Analyzer Agilent E4440A.
4. Bilog antenna CHASE CBL6111.
5. Antenna tripod EMCO 11968C.
6. Antenna mast EM 1072 NMT.
7. Rotating table EM 1084-4. ON.
8. Double-ridge Guide Horn antenna 1-18 GHz HP 11966E.
9. Double-ridge Guide Horn antenna 18-40 GHz Agilent 119665J.
10. RF pre-amplifier Miteq AFS5-04001300-15-10P-6.
11. RF pre-amplifier Miteq JS4-12002600-30-5A.

12. EMI Test Receiver R&S ESIB26.
13. Universal Radio communication Tester R&S CMU200.
14. 10 dB attenuator HP 8491B.
15. Multi Device Controller EMCO 2090.
16. DC Power supply R & S NGPE 40/40.
17. Transient limiter. HP 11947A.
18. Line Impedance Stabilization Network (L.I.S.N.) R&S. ESH2-Z5.

#### **4. IDENTIFICATION DATA SUPPLIED BY THE APPLICANT**

Identification data in this section has been supplied by the client.

##### **4.1 APPLICANT**

**Name or Company:** TELIT Communications S.p.A.

**V.A.T.:** 03711600266

**Address:** Via Stazione di Prosecco 5/b

**City:** Trieste

**Postal code:** 34010

**Country:** ITALY

**Telephone:** +39 040 4192111

**Fax:** +39 040 4192 383

##### **4.2 REPRESENTATIVE**

**Name:** Andrea Fragiacomio

##### **4.3 TEST SAMPLES SUPPLIER**

**Name or Company:** Same as indicated in point 4.1.

Samples undergoing test have been selected by: **the client.**

#### 4.4 IDENTIFICATION OF ITEM/ITEMS TESTED

**Product:** GE863-GPS

**Trade mark:** TELIT

**Model:** GE863

**Hw version:** 2

**SW version:** PS: 05.03.03 / AL: 7.01.703-GE863-GPS

**Other identification of the product:** FCC ID: RI7GE863G

IC: 5131A-GE863G

**Manufacturer:** TELIT Communications S.p.A.

**Country of manufacture:** ITALY

**Manufacture site:** Via Stazione di Prosecco 5/b, Trieste, ITALY

**Description:** GPRS class 10 modem, 850/900/1800/1900MHz, without connector and SIM holder.

### 5. USAGE OF SAMPLES, PERIOD OF TESTING AND ENVIRONMENTAL CONDITIONS

#### 5.1 USAGE OF SAMPLES

Sample M/01 is formed by the following elements:

<u>Control No.</u>	<u>Description</u>	<u>Model</u>	<u>Serial No.</u>	<u>Date of reception</u>
22345/02	Evaluation Board	---	---	28/06/05
23133/04	GPRS module with antenna connector	GE863	358281009999008	15/02/06
---	Antenna with N connector	---	---	---

Sample S/01 is composed of the following elements:

<u>Control No.</u>	<u>Description</u>	<u>Model</u>	<u>Serial No.</u>	<u>Date of reception</u>
23133/01	GSM module	GE863	358281009999032	15/02/06

During the tests were used next ancillary equipments:

<u>Control No.</u>	<u>Description</u>	<u>Model</u>	<u>Serial No.</u>	<u>Date of reception</u>
23133/06	Test board	---	---	15/02/06
---	Antenna with N connector	---	---	---
23133/-	Portable PC	Toshiba PS610E-NGYSC-SP	13123012G	---

1. Sample M/01 has undergone the following test(s).  
Radiated emissions measurements indicated in annex A and B.
2. Sample S/01 has undergone the following test(s):  
Continuous conducted emission, power leads in annex C.  
Radiated emission, electromagnetic field in annex C.

## 5.2 PERIOD OF TESTING

The performed test started on 2006-01-20 and finished on 2006-02-21.

The tests as detailed in this report have been performed at CETECOM.

## 5.3 ENVIROMENTAL CONDITIONS

In the control chamber the following limits were not exceeded during the test:

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 20 % Max. = 80 %
Shielding effectiveness	> 100 dB
Electric insulation	> 10 kΩ
Reference resistance to earth	< 0,5 Ω

In the semianechoic chamber (21 meters x 11 meters x 8 meters) the following limits were not exceeded during the test.

Temperature	Min. = 15 °C Max. = 30 °C
Relative humidity	Min. = 45 % Max. = 60 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar
Shielding effectiveness	> 100 dB
Electric insulation	> 10 k $\Omega$
Reference resistance to earth	< 0,5 $\Omega$
Normal site attenuation (NSA)	< $\pm 4$ dB at 10 m distance between item under test and receiver antenna, (30 MHz to 1000 MHz)
Field homogeneity	More than 75% of illuminated surface is between 0 and 6 dB (26 MHz to 1000 MHz).

In the chamber for conducted measurements the following limits were not exceeded during the test:

Temperature	Min. = 15 °C Max. = 30 °C
Relative humidity	Min. = 45 % Max. = 60 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar
Shielding effectiveness	> 100 dB
Electric insulation	> 10 k $\Omega$
Reference resistance to earth	< 0,5 $\Omega$



## 6. TEST RESULTS

Abbreviations used in the VERDICT column of the following tables are:

<b>P</b>	Pass
<b>F</b>	Fail
<b>NA</b>	not applicable
<b>NM</b>	not measured

FCC PART 22 PARAGRAPH	VERDICT			
	NA	P	F	NM
Clause 22.917: Radiated emissions		P		

FCC PART 24 PARAGRAPH	VERDICT			
	NA	P	F	NM
Clause 24.238: Radiated emissions		P		

MEASURING RESULTS FOR ELECTROMAGNETIC EMISSION	VERDICT			
	NA	P	F	NM
Continuous conducted emission, power leads. Class B and C		P		
Radiated emission, electromagnetic field . Class B		P		

## 7. REMARKS AND COMMENTS

None.

## 8. SUMMARY

Based on the results of the performed test, stated in annex A the item under test is **IN COMPLIANCE** with the specifications listed in section 3.1 “TEST REQUESTED”.

NOTE: The results presented in this Test Report apply only to the particular item under test declared in section 4.4 “IDENTIFICATION OF ITEM/ITEMS TESTED” of this document, as presented for test on the date(s) declared in section 5, “USAGE OF SAMPLES, PERIOD OF TESTING AND ENVIRONMENTAL CONDITIONS”.

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**ANNEX A**

**TEST RESULTS FOR FCC PART 22**

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Annex A

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**TEST CONDITIONS**

Power supply (V):

$$V_{\text{nom}} = 3.8 \text{ Vdc}$$

Type of power supply = DC Voltage from external power supply

Type of antenna = external connectable antenna with N type connector

**TEST FREQUENCIES:**

Lowest channel (128): 824.2 MHz

Middle channel (190): 836.6 MHz

Highest channel (251): 848.8 MHz

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## **Radiated emissions**

### SPECIFICATION

§ 22.917

### METHOD

The measurement was performed with the EUT inside an anechoic chamber. The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment.

The EUT was placed on a 1 meter high non-conductive stand at a 3 meter distance from the measuring antenna for measurements below 1 GHz and at 1 m distance for measurements above 1 GHz.

Detected emissions were maximized at each frequency by rotating the EUT and adjusting the measuring antenna height and polarization. The maximum meter reading was recorded. The radiated emissions were measured with peak detector and 1 MHz bandwidth.

Each detected emissions were substituted by the Substitution method, in accordance with the TIA/EIA 603 .

#### **Measurement Limit:**

According to specification, the power of emissions shall be attenuated below the transmitter power (P) by a factor of at least  $43 + 10 \log (P)$  dB, P in watts.

At  $P_o$  transmitting power, the specified minimum attenuation becomes  $43 + 10 \log (P_o)$ , and the level in dBm relative  $P_o$  becomes:

$$P_o \text{ (dBm)} - [43 + 10 \log (P_o \text{ in mwatts}) + 30] = - 13 \text{ dBm}$$

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## RESULTS

1. CHANNEL: LOWEST (824.2MHz).

**Frequency range 30 MHz-1000 MHz.**

No spurious signals were found in all the range.

**Frequency range 1 GHz-12.75 GHz.**

Spurious frequency (MHz)	Level (dBm)	Polarization	Measurement uncertainty (dB)
1648.420	-29.50	Vertical	$\pm 4.0$

2. CHANNEL: MIDDLE (836.6 MHz).

**Frequency range 30 MHz-1000 MHz.**

No spurious signals were found in all the range.

**Frequency range 1 GHz-12.75 GHz.**

Spurious frequency (MHz)	Level (dBm)	Polarization	Measurement uncertainty (dB)
1673.230	-29.20	Vertical	$\pm 4.0$

3. CHANNEL: HIGHEST (848.8 MHz).

**Frequency range 30 MHz-1000 MHz.**

No spurious signals were found in all the range.

**Frequency range 1 GHz-12.75 GHz.**

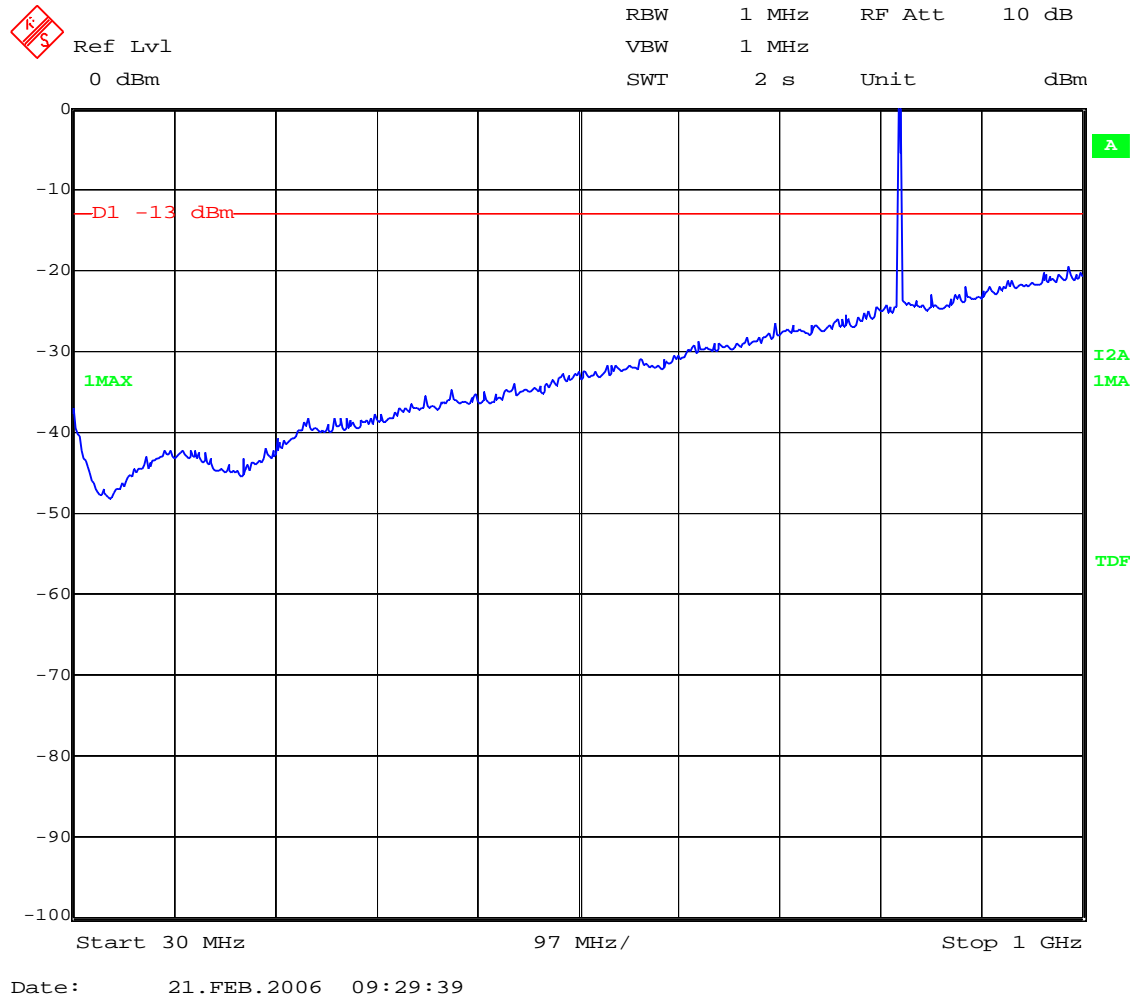
Spurious frequency (MHz)	Level (dBm)	Polarization	Measurement uncertainty (dB)
1697.830	-32.07	Vertical	$\pm 4.0$

Verdict: PASS

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FREQUENCY RANGE 30 MHz-1000 MHz.

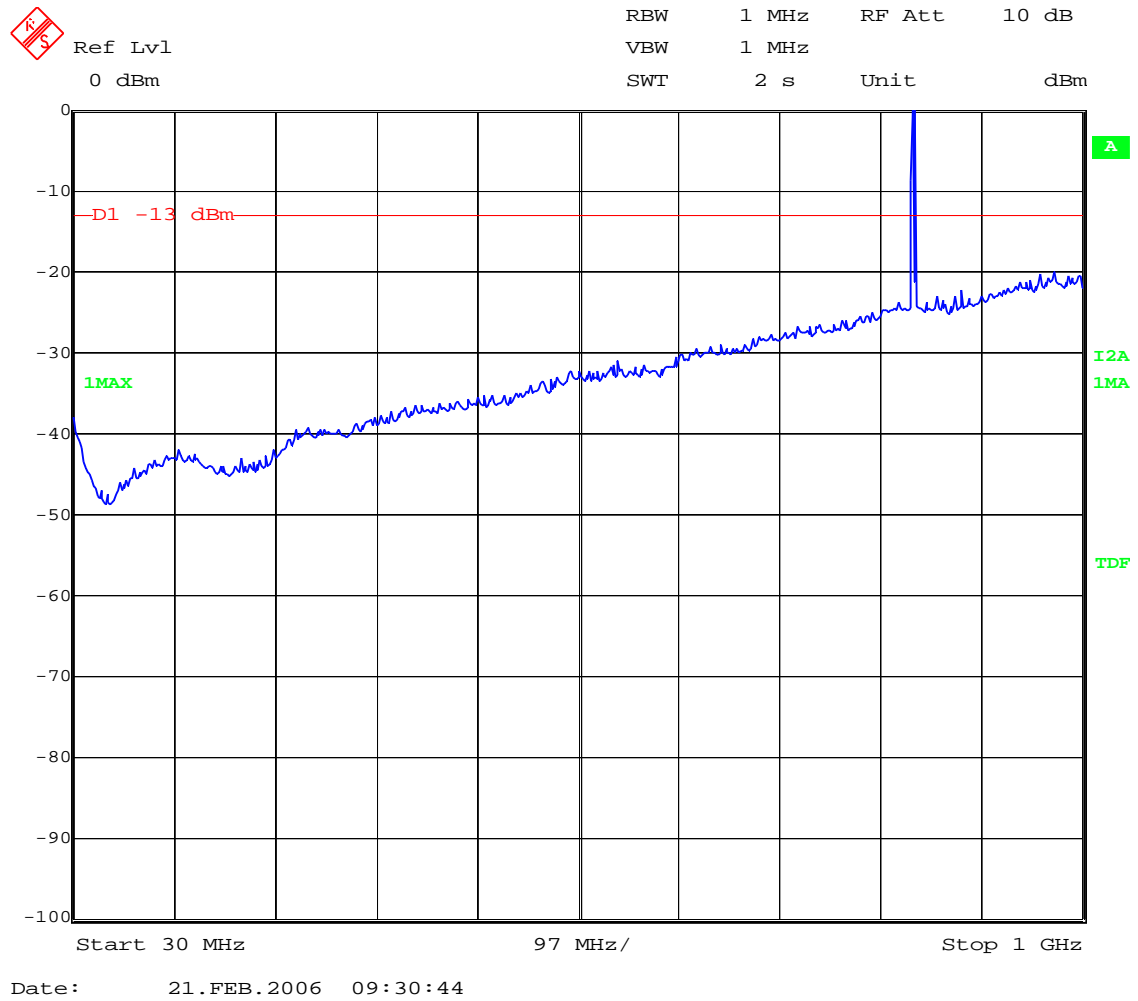
CHANNEL: LOWEST (824.2 MHz)



Note: The peak above the limit is the carrier frequency.

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CHANNEL: MIDDLE (836.6 MHz)

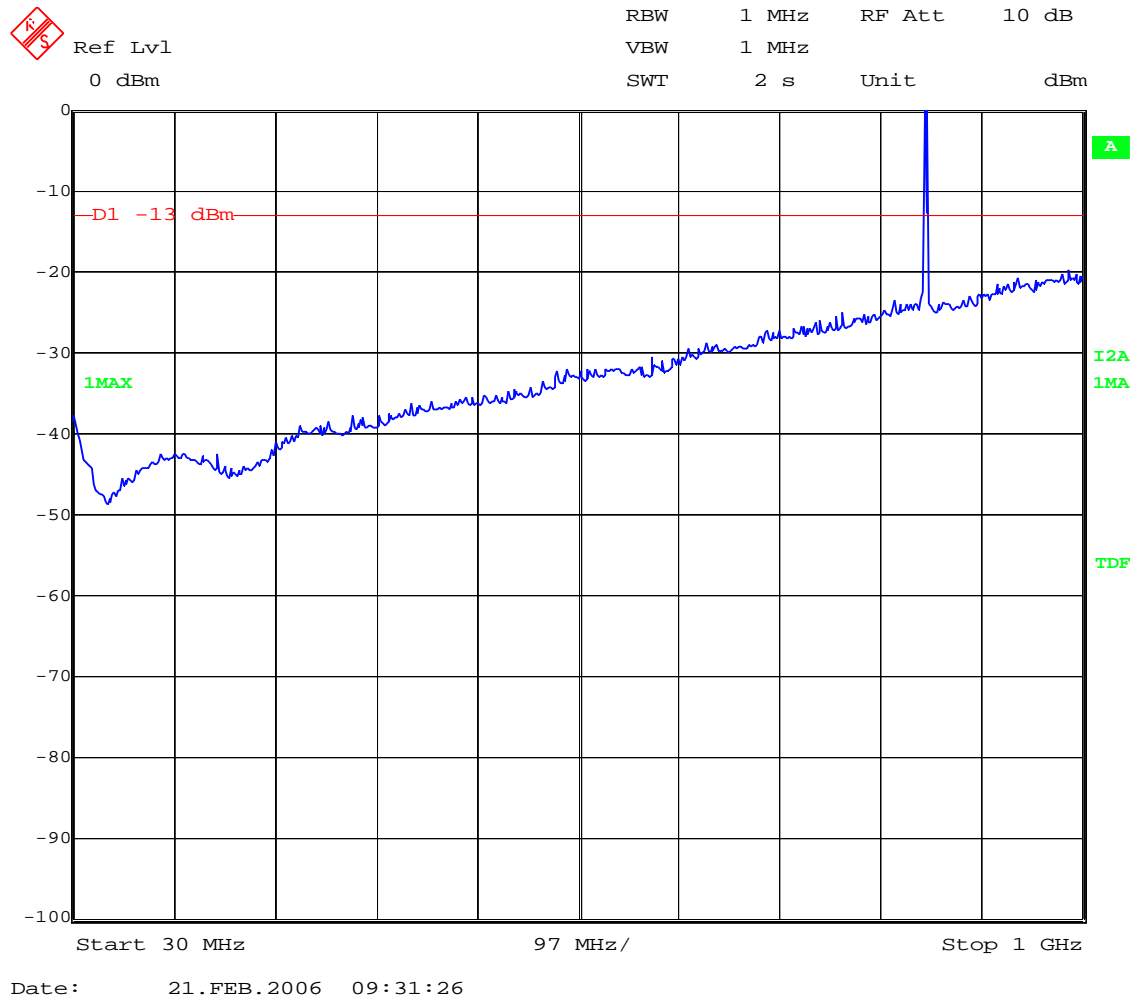


Note: The peak above the limit is the carrier frequency.

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CHANNEL: HIGHEST (848.8 MHz)



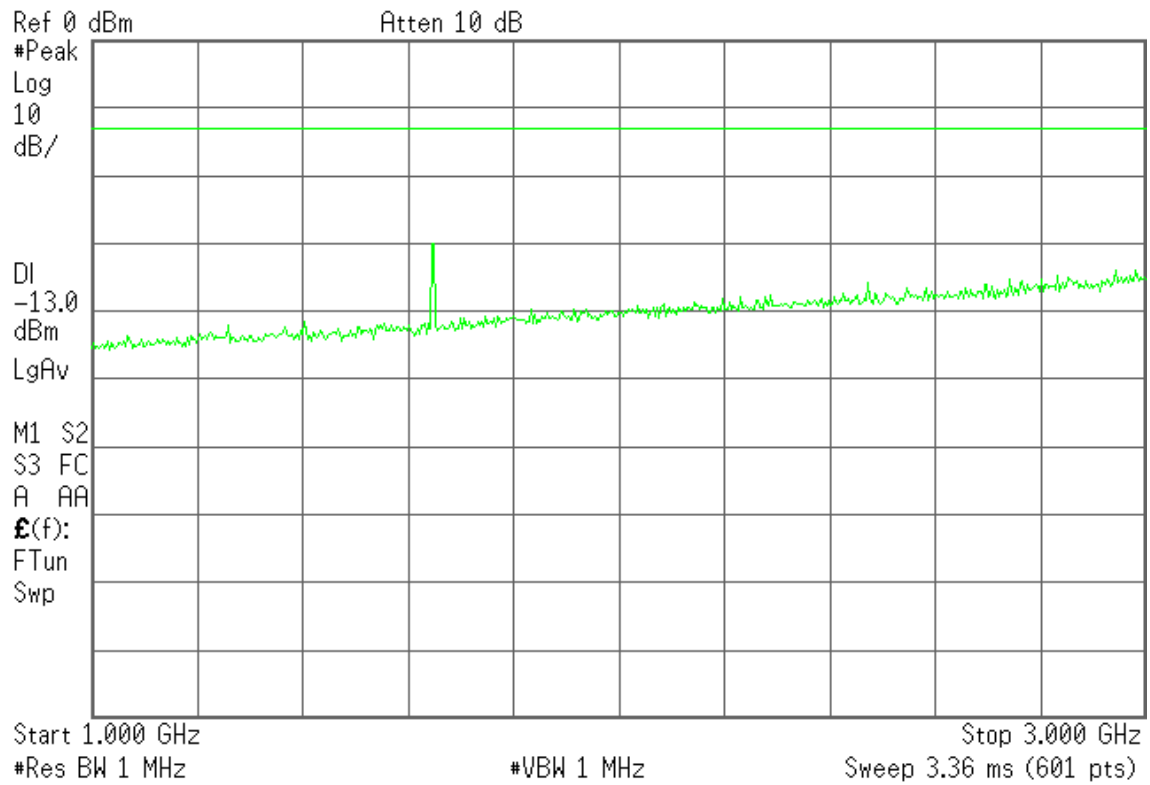
Note: The peak above the limit is the carrier frequency.

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FREQUENCY RANGE 1 GHz to 3 GHz.

CHANNEL: LOWEST (824.2 MHz)

✱ Agilent 16:47:36 Feb 21, 2006



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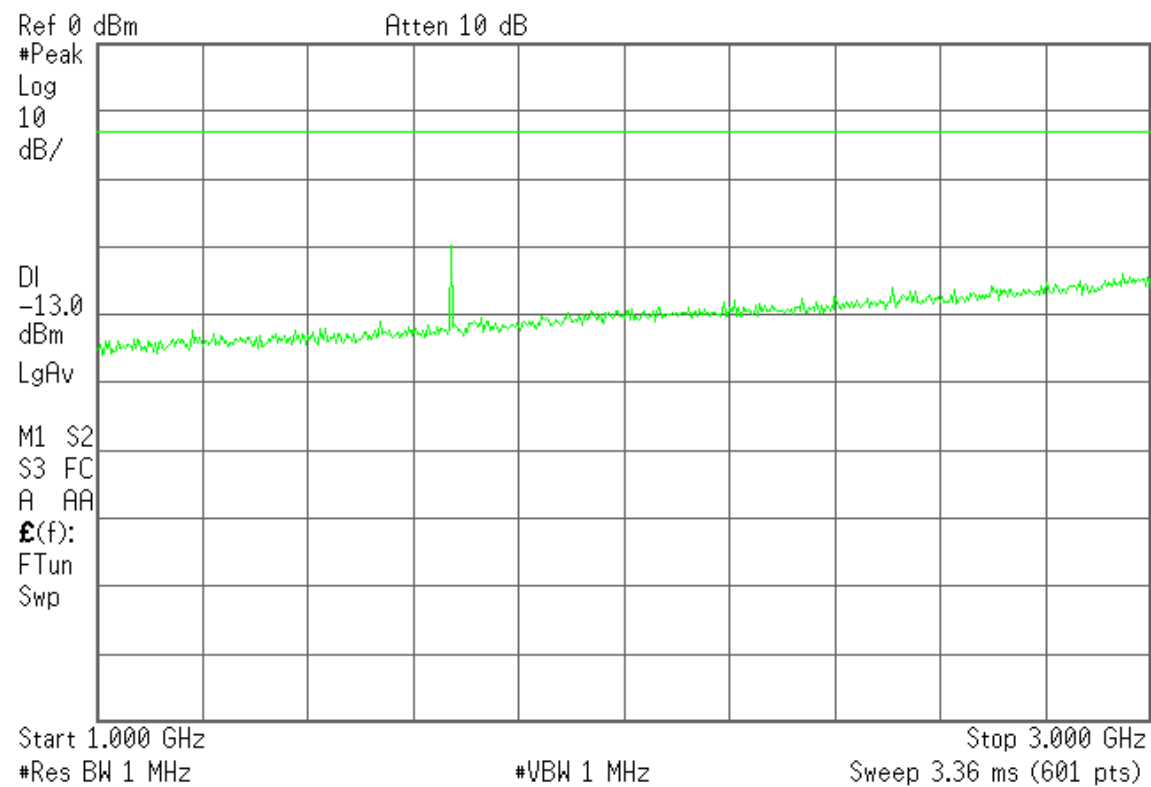
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CHANNEL: MIDDLE (836.6 MHz)

✱ Agilent 16:46:02 Feb 21, 2006



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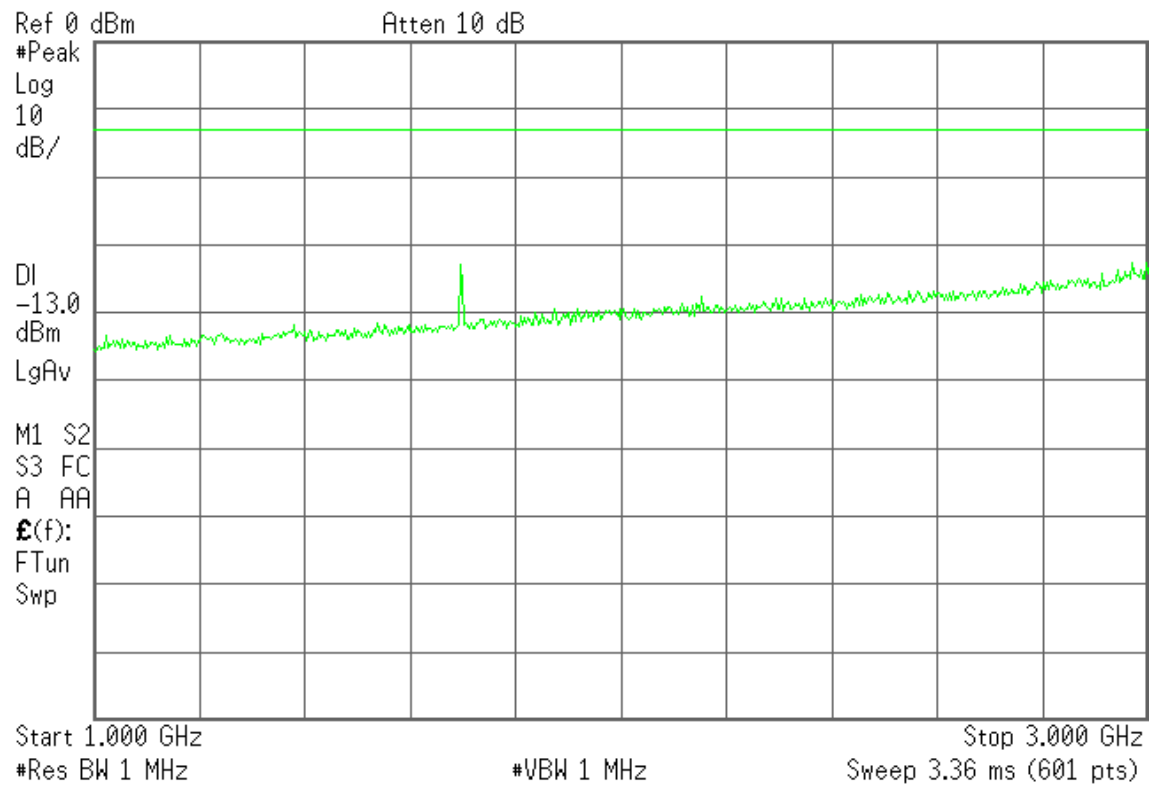
FET45\_00.DOC

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CHANNEL: HIGHEST (848.8 MHz)

✱ Agilent 16:44:30 Feb 21, 2006



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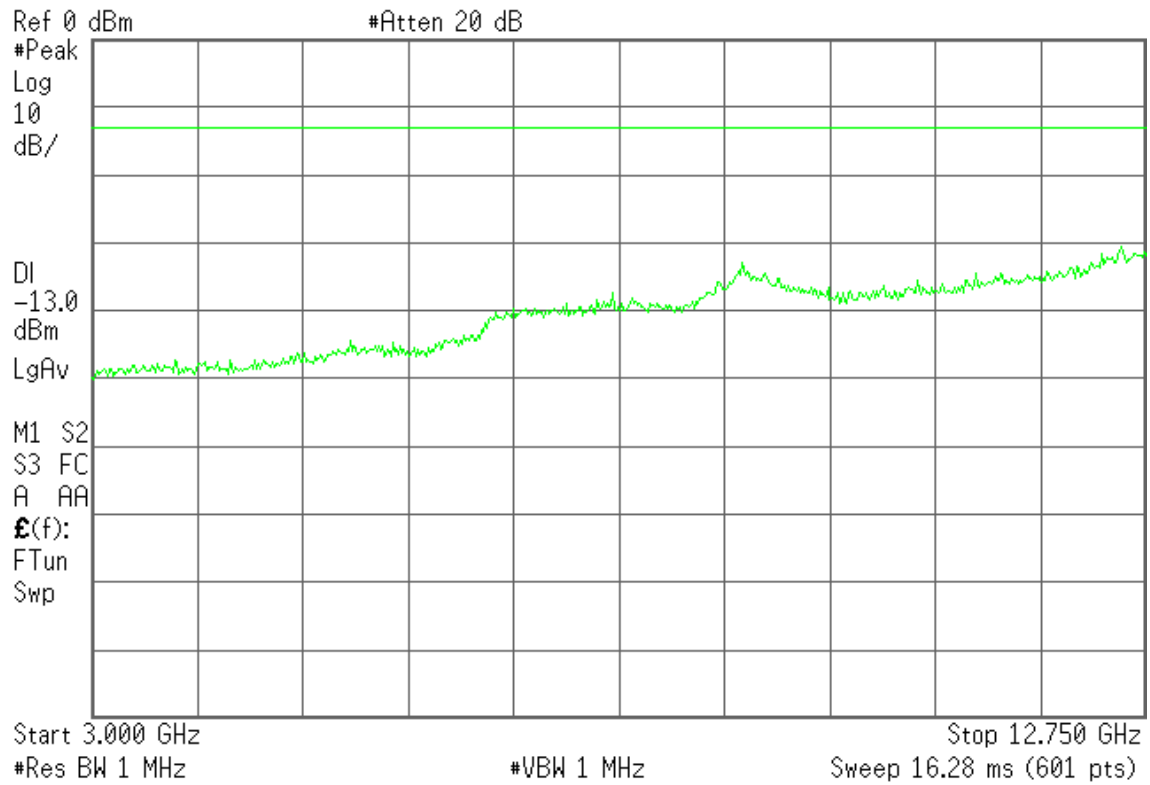
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Annex A

FREQUENCY RANGE 3 GHz to 12.75 GHz.

✱ Agilent 16:53:44 Feb 21, 2006



(This plot is valid for all three channels)

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**ANNEX B**

**TEST RESULTS FOR FCC PART 24**

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Annex B

**TEST CONDITIONS**

Power supply (V):

$$V_{\text{nom}} = 3.8 \text{ Vdc}$$

Type of power supply = DC Voltage from external power supply

Type of antenna = external connectable antenna with N type connector

**TEST FREQUENCIES:**

Lowest channel (512): 1850.2 MHz

Middle channel (662): 1880.2 MHz

Highest channel (810): 1909.8 MHz

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## **Radiated emissions**

### SPECIFICATION

§ 24.238

### METHOD

The measurement was performed with the EUT inside an anechoic chamber. The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment.

The EUT was placed on a 1 meter high non-conductive stand at a 3 meter distance from the measuring antenna for measurements below 1 GHz and at 1 m distance for measurements above 1 GHz.

Detected emissions were maximized at each frequency by rotating the EUT and adjusting the measuring antenna height and polarization. The maximum meter reading was recorded. The radiated emissions were measured with peak detector and 1 MHz bandwidth.

Each detected emissions were substituted by the Substitution method, in accordance with the TIA/EIA 603 .

#### **Measurement Limit:**

According to specification, the power of emissions shall be attenuated below the transmitter power (P) by a factor of at least  $43 + 10 \log (P)$  dB, P in watts.

At  $P_o$  transmitting power, the specified minimum attenuation becomes  $43 + 10 \log (P_o)$ , and the level in dBm relative  $P_o$  becomes:

$$P_o \text{ (dBm)} - [43 + 10 \log (P_o \text{ in mwatts}) + 30] = -13 \text{ dBm}$$

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## RESULTS

1. CHANNEL: LOWEST (1850.2MHz).

**Frequency range 30 MHz-1000 MHz.**

No spurious signals were found in all the range.

**Frequency range 1 GHz-20 GHz.**

No spurious signals were found in all the range.

2. CHANNEL: MIDDLE (1880.2 MHz).

**Frequency range 30 MHz-1000 MHz.**

No spurious signals were found in all the range.

**Frequency range 1 GHz-20 GHz.**

No spurious signals were found in all the range.

3. CHANNEL: HIGHEST (1909.8 MHz).

**Frequency range 30 MHz-1000 MHz.**

No spurious signals were found in all the range.

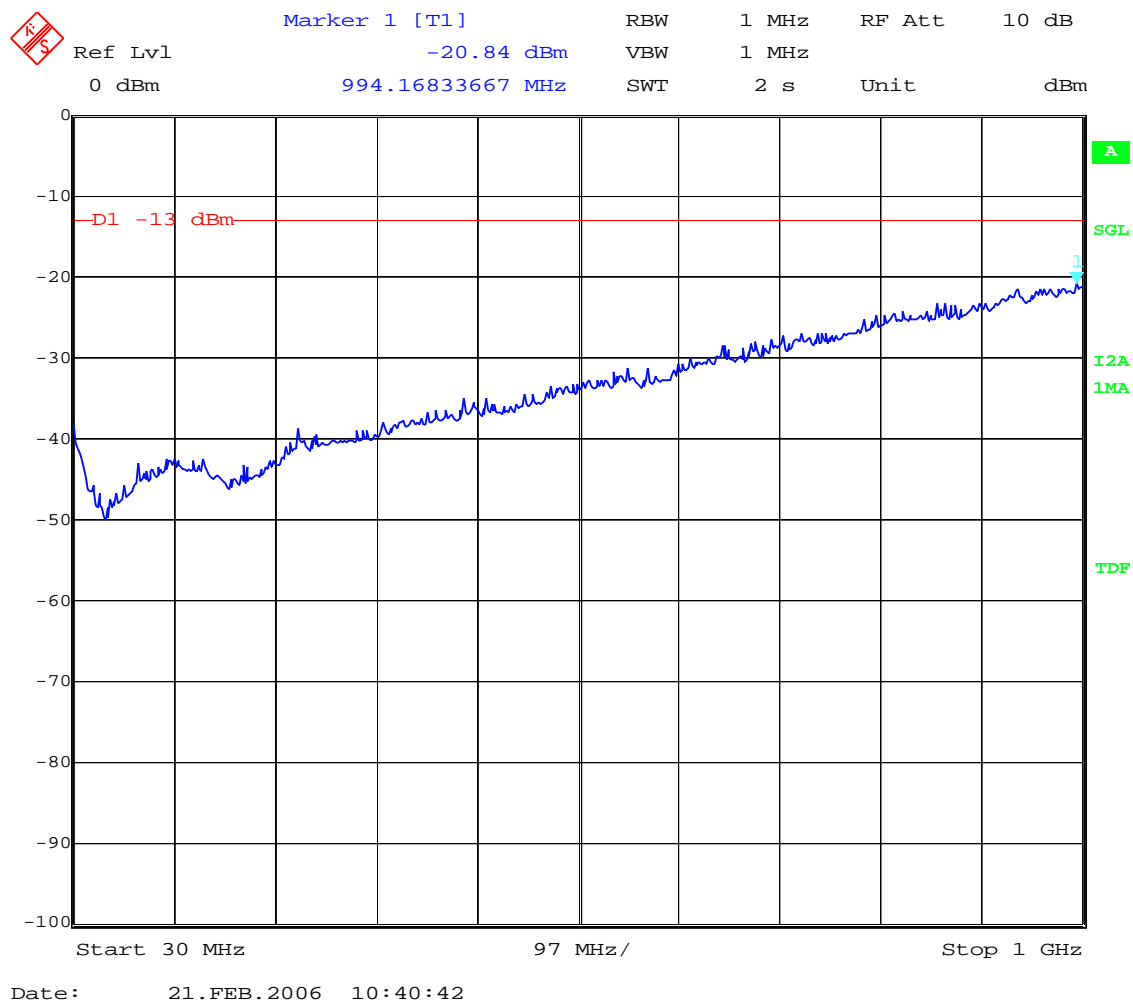
**Frequency range 1 GHz-20 GHz.**

No spurious signals were found in all the range.

Verdict: PASS

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# FREQUENCY RANGE 30 MHz-1000 MHz.



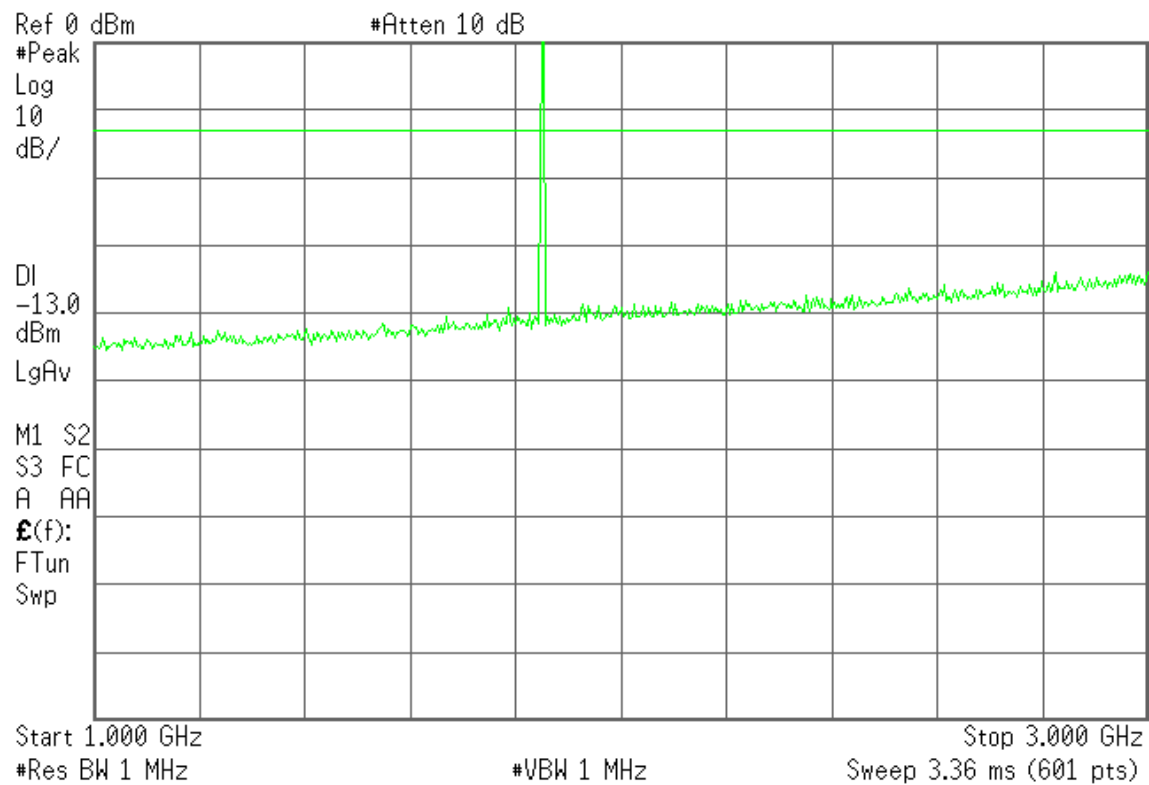
(This plot is valid for all three channels).

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FREQUENCY RANGE 1 GHz to 3 GHz.

CHANNEL: LOWEST (1850.2 MHz)

✱ Agilent 17:21:10 Feb 21, 2006



Note: The peak above the limit is the carrier frequency.

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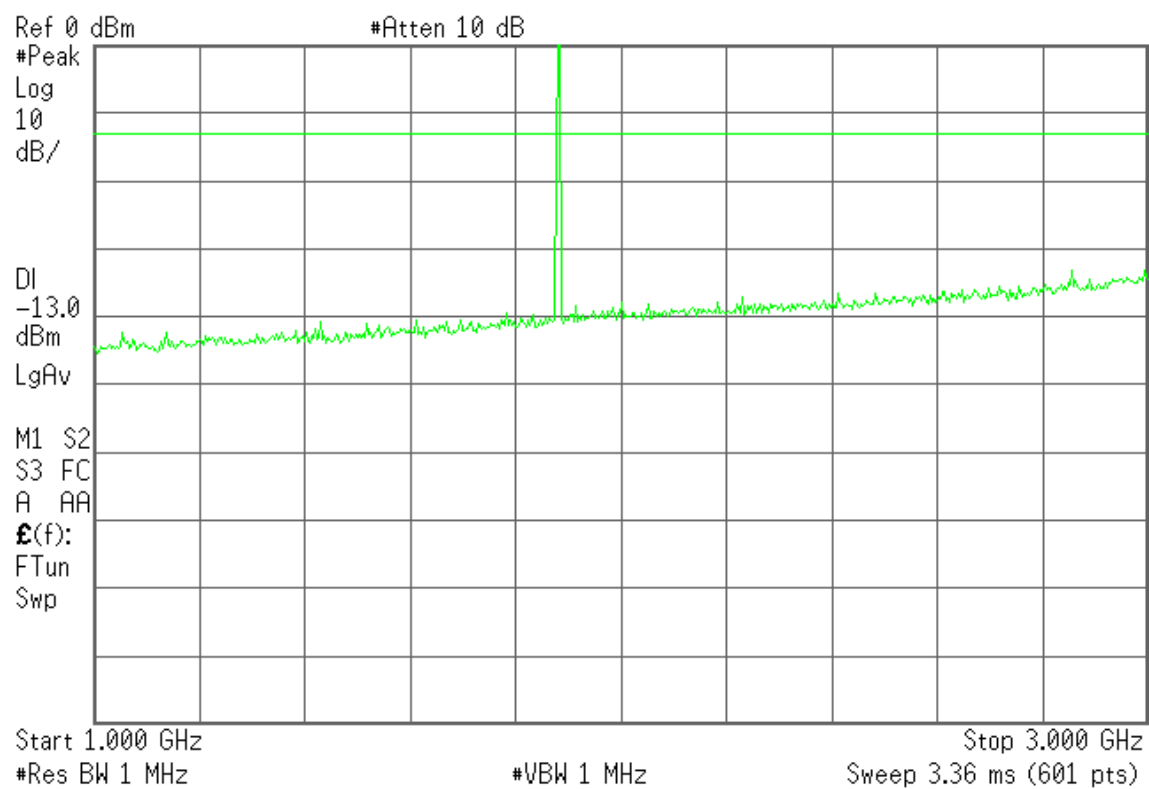
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CHANNEL: MIDDLE (1880.2 MHz)

✱ Agilent 17:20:29 Feb 21, 2006



Note: The peak above the limit is the carrier frequency.

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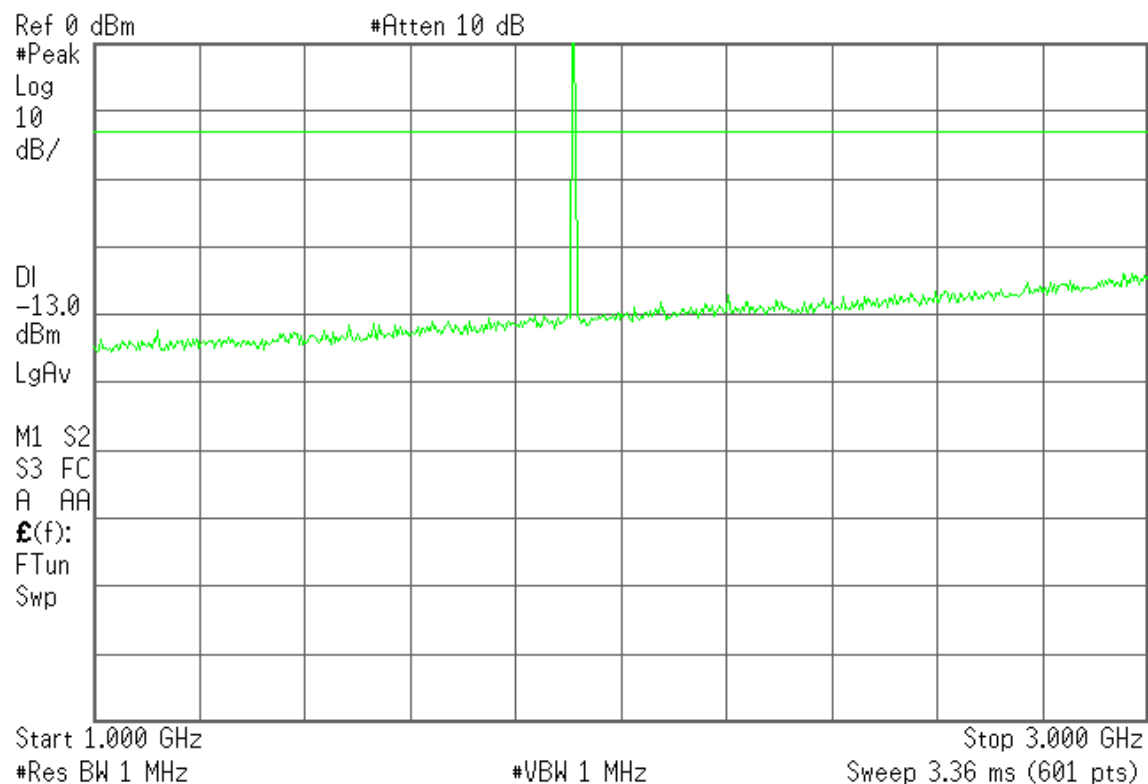
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CHANNEL: HIGHEST (1909.8 MHz)

✱ Agilent 17:21:48 Feb 21, 2006



Note: The peak above the limit is the carrier frequency.

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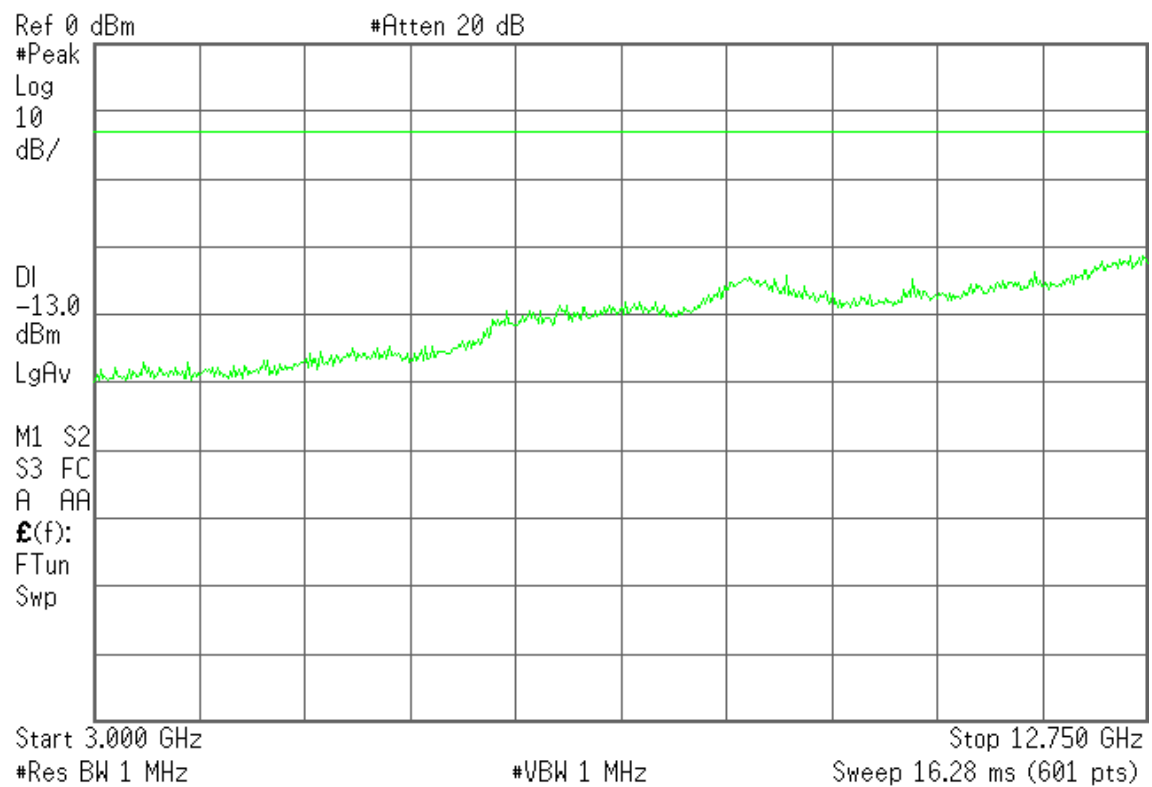
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FREQUENCY RANGE 3 GHz to 12.75 GHz.

\* Agilent 17:16:57 Feb 21, 2006



(This plot is valid for all three channels).

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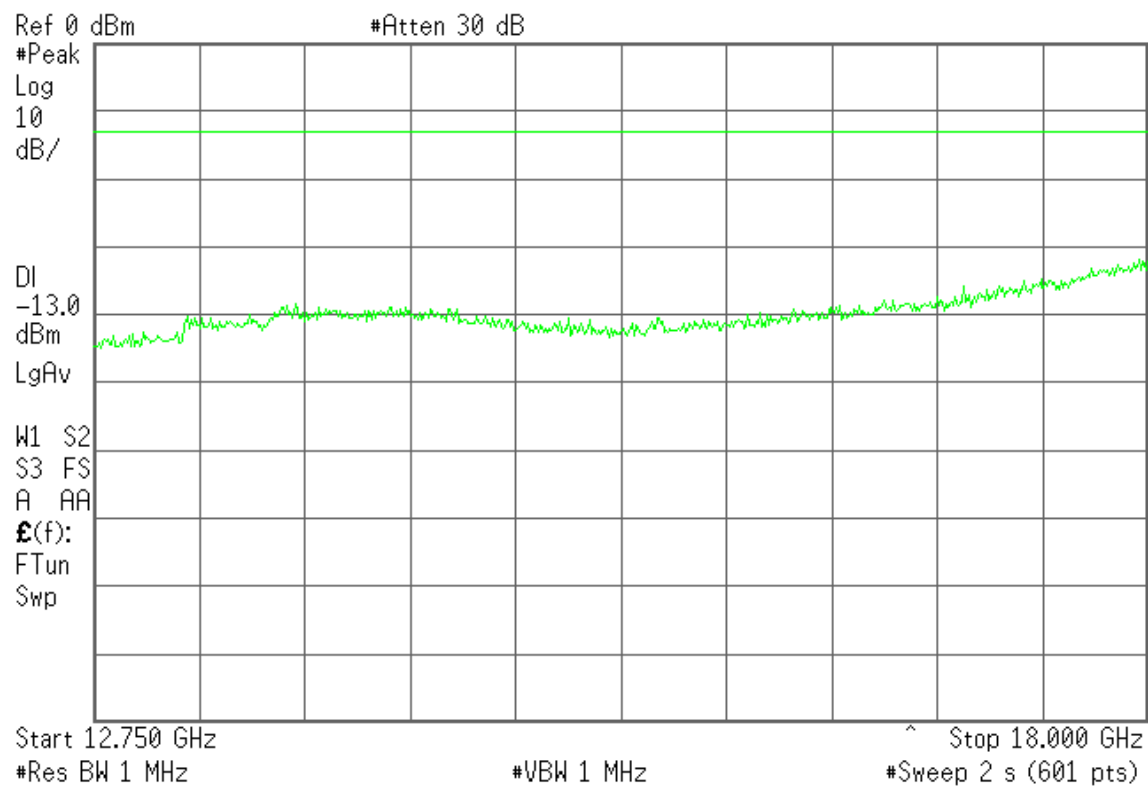
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# FREQUENCY RANGE 12.75 GHz TO 18 GHz.

✧ Agilent 22:34:14 Feb 21, 2006



(This plot is valid for all three channels).

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Date: 2006-03-21

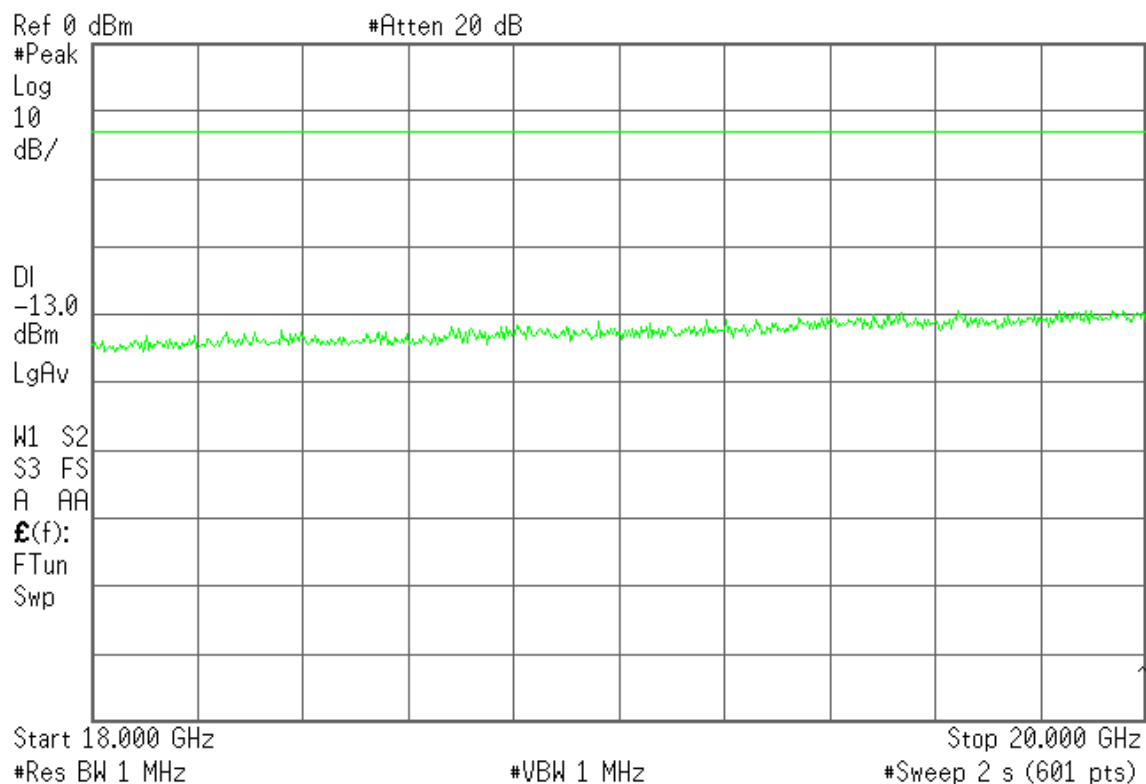
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# FREQUENCY RANGE 18 GHz TO 20 GHz.

✱ Agilent 22:49:50 Feb 21, 2006



(This plot is valid for all three channels).

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Annex B

# **ANNEX C**

## **MEASURING RESULTS FOR ELECTROMAGNETIC EMISSION**

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For the sample under test, named S/01, and that was formed by the elements described in the clause “Identification of the tested item/items” of this test report.

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## 1. - CONTINUOUS CONDUCTED EMISSION, POWER LEADS ON THE SAMPLE S/01

### LIMITS OF INTERFERENCE

The applied limit for continuous conducted emissions in power leads, according with the requirements of FCC Rules and Regulations 47 CFR Part 15, Subpart B in the frequency range 0,15 to 30 MHz, for Class B equipment was:

Frequency range (MHz)	Limit (dB $\mu$ V)	
	Quasi-peak	Average
0,15 to 0,5	66-56	56-46
0,5 to 5	56	46
5 to 30	60	50

### TEST METHOD

According to Part 15, Subpart B of FCC Rules.

### OPERATING MODES OF EUT

#### Different tested operating modes (OM)

- OM#01: EUT ON. TCH 850 MHz mode.
- OM#02: EUT ON. TCH 1900 MHz mode.
- OM#03: EUT ON. IDLE 850 MHz mode.
- OM#04: EUT ON. IDLE 1900 MHz mode.

### TEST RESULTS

CCmmnnxx: CC, Conduction condition°; mm: sample number; nn: operation mode; xx: wire.

- OM#01.

CDmmnnxx	Description	Result
CC0101H+	Interference voltage on Positive wire	PASS
CC0101H-	Interference voltage on Negative wire	PASS

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- OM#02.

<b>CDmmnnxx</b>	<b>Description</b>	<b>Result</b>
CC0102H+	Interference voltage on Positive wire	PASS
CC0102H-	Interference voltage on Negative wire	PASS

- OM#03.

<b>CDmmnnxx</b>	<b>Description</b>	<b>Result</b>
CC0103H+	Interference voltage on Positive wire	PASS
CC0103H-	Interference voltage on Negative wire	PASS

- OM#04.

<b>CDmmnnxx</b>	<b>Description</b>	<b>Result</b>
CC0104H+	Interference voltage on Positive wire	PASS
CC0104H-	Interference voltage on Negative wire	PASS

## 2. - RADIATED EMISSION, ELECTROMAGNETIC FIELD ON THE SAMPLE S/01

### LIMITS OF INTERFERENCE

The applied limit for radiated emissions, 3 m distance, according with the requirements of FCC Rules and Regulations 47 CFR Part 15, Subpart B in the frequency range 30 MHz to 12,5 GHz, for Class B equipment, which is a transmitter in a band over 500 MHz, was:

Frequency range (MHz)	Limit for 3 m ( $\mu\text{V/m}$ )	Limit for 3 m (dB $\mu\text{V/m}$ )
30 to 88	100	40
88 to 216	150	43,52
216 to 960	200	46,02
Above 960	500	53,98

### TEST METHOD

According to Part 15, Subpart B of FCC Rules.

### OPERATING MODES OF EUT

#### Different tested operating modes (OM)

- OM#03: EUT ON. IDLE 850 MHz mode.
- OM#04: EUT ON. IDLE 1900 MHz mode.

### TEST RESULTS

CRmmnn: CR, Radiated Condition; mm: sample number; nn: operation mode.

- OM#03.

CRmmnn	Description	Result
CR0103	[30 MHz - 1000 MHz]	PASS
CR0103	[1 GHz – 12,5 GHz]	PASS

- OM#04.

CRmmnn	Description	Result
CR0104	[30 MHz - 1000 MHz]	PASS
CR0104	[1 GHz – 12,5 GHz]	PASS

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### 3. - GRAPH RESULTS

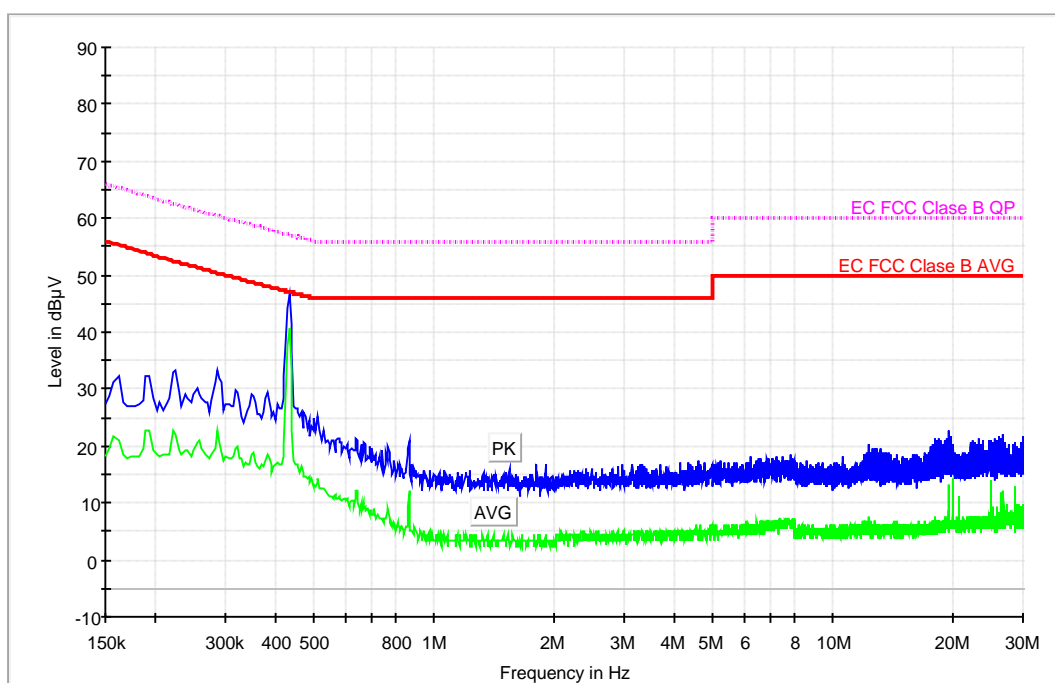
Continuous conducted emission: CC0101H+ (Peak and Average)

## EMC32 Report

### Test Information

Proyecto:	23133iem.002
Empresa:	TELIT COMMUNICATIONS S.P.A.
Muestra:	M/01
Modo operacion:	MO#01
Fecha:	2006-02-20 10:16
Setup:	EMI conducted
Mode:	EUT ON. TCH 850 MHz. Positive wire noise.

### EC FCC Clase B ESIB26 CC



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## Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBμV)	Average-ClearWrite (dBμV)
0.162000	32.2	21.1
0.190000	32.3	22.8
0.194000	32.4	22.6
0.222000	32.8	22.6
0.226000	33.2	22.1
0.282000	31.3	19.5
0.286000	33.3	22.8
0.290000	31.8	20.5
0.294000	31.3	18.7
0.422000	32.4	20.3
0.426000	37.9	28.6
0.430000	44.3	37.7
0.434000	46.8	40.8
0.438000	41.5	33.5
0.442000	36.5	22.6

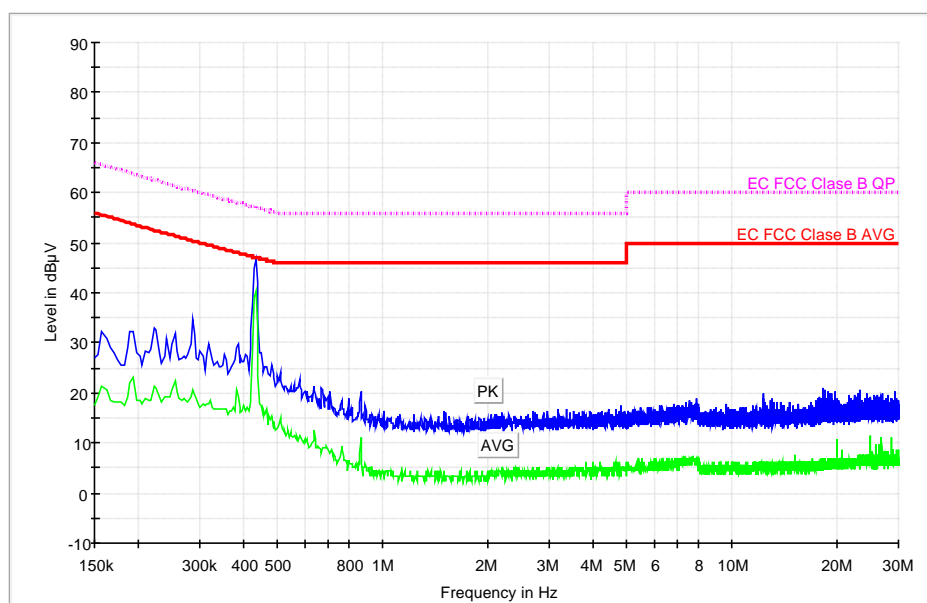
Continuous conducted emission: CC0101H- (Peak and Average)

# EMC32 Report

## Test Information

Proyecto: 23133iem.002  
 Empresa: TELIT COMMUNICATIONS S.P.A.  
 Muestra: M/01  
 Modo operacion: MO#01  
 Fecha: 2006-02-20 10:12  
 Setup: EMI conducted  
 Mode: EUT ON. TCH 850 MHz. Negative wire noise.

## EC FCC Clase B ESIB26 CC



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## Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBμV)	Average-ClearWrite (dBμV)
0.158000	32.3	21.2
0.190000	32.4	21.9
0.194000	32.2	23.1
0.222000	33.1	21.2
0.226000	32.7	21.1
0.242000	30.9	19.4
0.254000	32.0	22.5
0.286000	34.6	20.8
0.290000	31.8	19.7
0.422000	32.5	19.1
0.426000	37.8	28.7
0.430000	44.8	38.8
0.434000	46.7	40.4
0.438000	42.0	33.4
0.442000	34.8	23.3

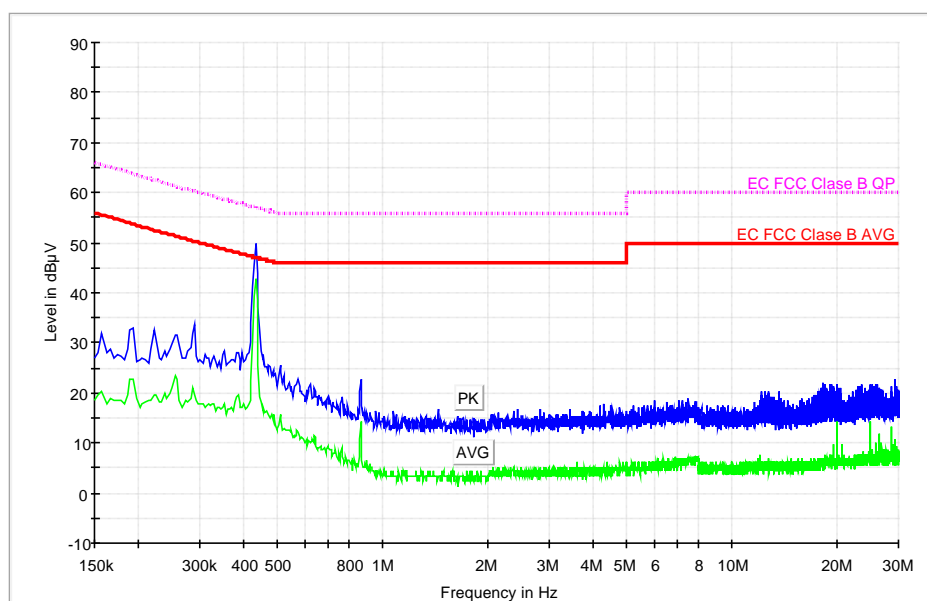
Continuous conducted emission: CC0102H+ (Peak and Average)

# EMC32 Report

## Test Information

Proyecto: 23133iem.002  
 Empresa: TELIT COMMUNICATIONS S.P.A.  
 Muestra: M/01  
 Modo operacion: MO#02  
 Fecha: 2006-02-20 09:59  
 Setup: EMI conducted  
 Mode: EUT ON. TCH 1900 MHz. Positive wire noise.

## EC FCC Clase B ESIB26 CC



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## Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBμV)	Average-ClearWrite (dBμV)
0.158000	32.0	20.1
0.190000	32.6	22.6
0.194000	33.1	22.9
0.222000	32.7	19.7
0.254000	31.6	23.5
0.258000	31.6	22.8
0.286000	31.9	20.9
0.290000	33.6	19.7
0.422000	34.0	22.3
0.426000	41.2	30.5
0.430000	45.5	39.4
0.434000	49.8	42.9
0.438000	43.9	38.5
0.442000	37.2	25.6
0.446000	32.7	19.4

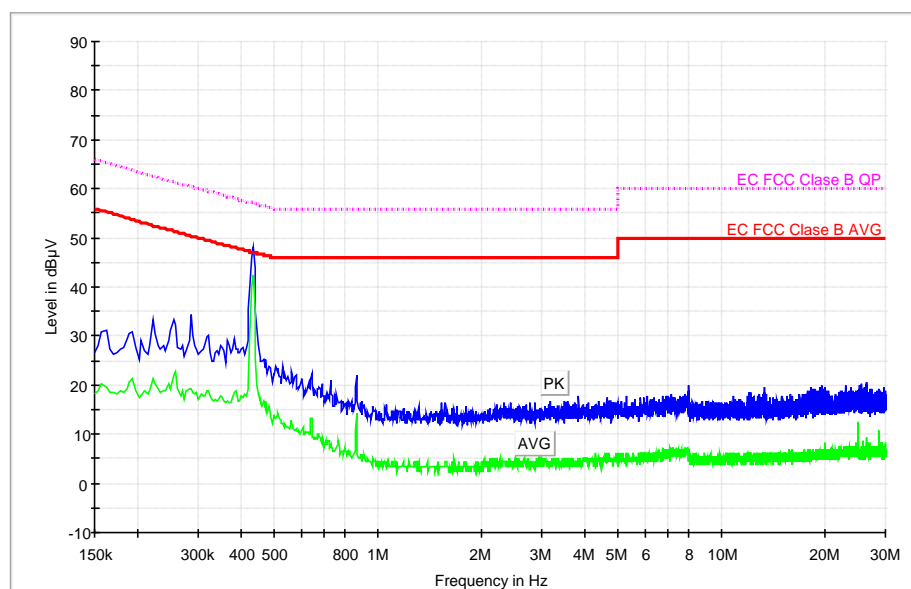
Continuous conducted emission: CC0102H- (Peak and Average)

# EMC32 Report

## Test Information

Proyecto: 23133iem.002  
 Empresa: TELIT COMMUNICATIONS S.P.A.  
 Muestra: M/01  
 Modo operacion: MO#02  
 Fecha: 2006-02-20 10:02  
 Setup: EMI conducted  
 Mode: EUT ON. TCH 900 MHz. Negativer wire noise.

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## Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBμV)	Average-ClearWrite (dBμV)
0.158000	31.0	20.3
0.162000	31.2	19.5
0.194000	30.9	21.4
0.222000	33.3	21.4
0.250000	31.1	19.2
0.254000	33.2	22.1
0.258000	32.4	22.9
0.286000	34.4	19.1
0.422000	35.2	20.4
0.426000	40.1	30.5
0.430000	46.1	40.0
0.434000	48.1	42.4
0.438000	43.8	35.4
0.442000	35.1	25.6
0.446000	31.5	19.8

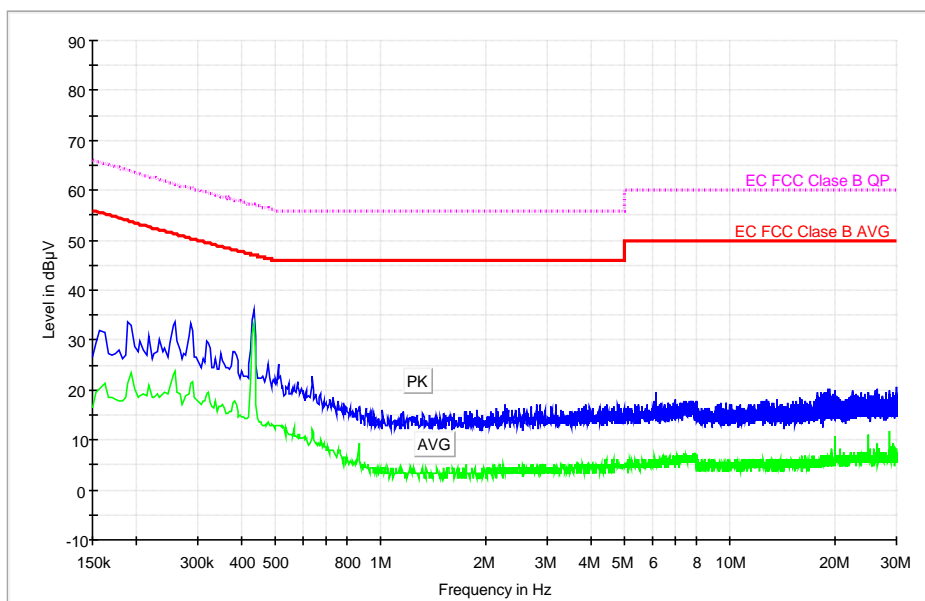
Continuous conducted emission: CC0103H+ (Peak and Average)

## EMC32 Report

### Test Information

Proyecto: 23133iem.002  
 Empresa: TELIT COMMUNICATIONS S.P.A.  
 Muestra: M/01  
 Modo operacion: MO#03  
 Fecha: 2006-02-20 10:42  
 Setup: EMI conducted  
 Mode: EUT ON. IDLE 850 MHz. Positive wire noise.

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## Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBμV)	Average-ClearWrite (dBμV)
0.158000	32.0	20.4
0.162000	31.6	21.3
0.190000	33.5	21.4
0.194000	32.8	23.6
0.218000	30.8	20.9
0.234000	30.2	18.6
0.254000	33.1	23.1
0.258000	33.8	23.7
0.282000	30.8	19.4
0.286000	33.2	21.3
0.290000	31.8	21.6
0.318000	29.9	19.4
0.430000	34.2	31.0
0.434000	36.2	33.5
0.438000	30.7	26.6

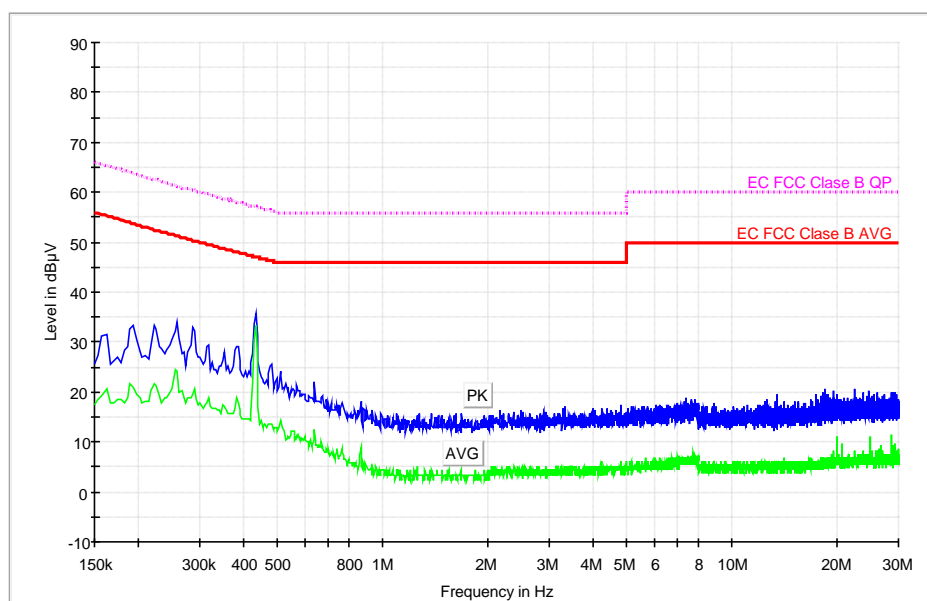
Continuous conducted emission: CC0103H- (Peak and Average)

# EMC32 Report

## Test Information

Proyecto: 23133iem.002  
 Empresa: TELIT COMMUNICATIONS S.P.A.  
 Muestra: M/01  
 Modo operacion: MO#03  
 Fecha: 2006-02-20 10:43  
 Setup: EMI conducted  
 Mode: EUT ON. IDLE 850 MHz. Negative wire noise.

## EC FCC Clase B ESIB26 CC



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## Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBμV)	Average-ClearWrite (dBμV)
0.158000	31.1	19.1
0.162000	31.5	20.5
0.190000	32.7	21.7
0.194000	33.2	20.9
0.198000	30.6	19.5
0.222000	33.2	21.7
0.226000	32.7	21.4
0.254000	32.4	24.6
0.258000	33.9	24.2
0.262000	30.8	19.8
0.286000	33.1	19.5
0.290000	32.2	20.7
0.430000	33.6	30.7
0.434000	35.9	33.4
0.438000	31.2	26.7

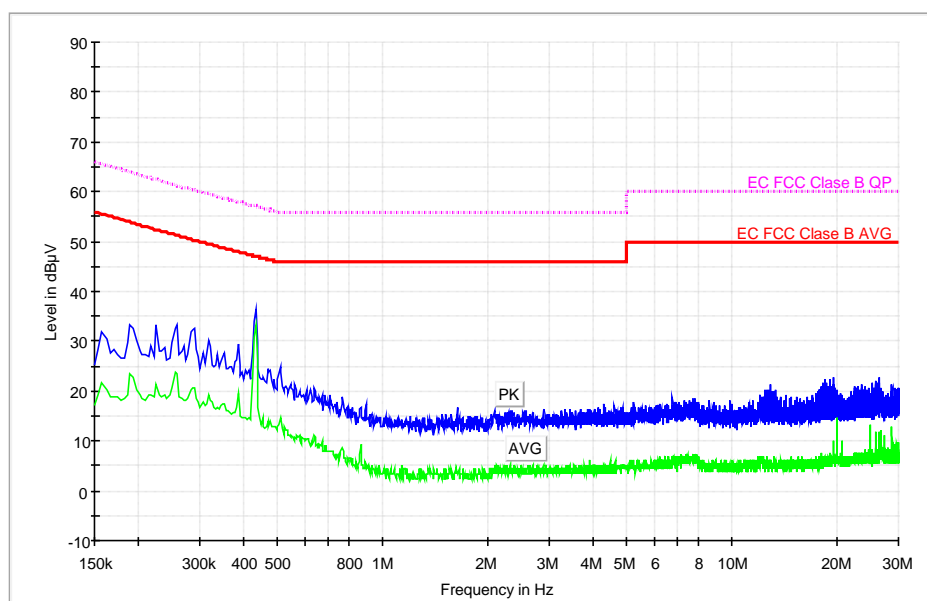
Continuous conducted emission: CC0104H+ (Peak and Average)

# EMC32 Report

## Test Information

Proyecto: 23133iem.002  
 Empresa: TELIT COMMUNICATIONS S.P.A.  
 Muestra: M/01  
 Modo operacion: MO#04  
 Fecha: 2006-02-20 10:21  
 Setup: EMI conducted  
 Mode: EUT ON. IDLE 1900 MHz. Positive wire noise.

## EC FCC Clase B ESIB26 CC



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## Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBμV)	Average-ClearWrite (dBμV)
0.158000	31.8	21.6
0.162000	30.6	20.1
0.190000	33.2	23.4
0.194000	32.7	22.8
0.198000	30.2	20.4
0.226000	33.3	21.2
0.250000	29.9	20.8
0.254000	32.7	23.9
0.258000	33.2	23.4
0.282000	31.9	20.4
0.286000	32.2	20.5
0.290000	32.5	20.5
0.318000	30.3	19.4
0.430000	33.9	30.7
0.434000	36.3	33.2

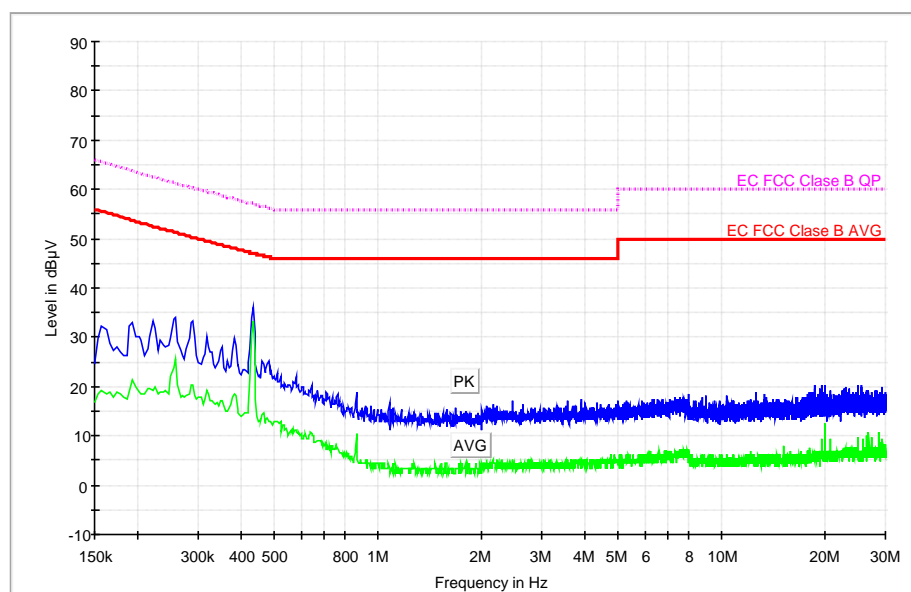
Continuous conducted emission: CC0104H- (Peak and Average)

# EMC32 Report

## Test Information

Proyecto: 23133iem.002  
 Empresa: TELIT COMMUNICATIONS S.P.A.  
 Muestra: M/01  
 Modo operacion: MO#04  
 Fecha: 2006-02-20 10:28  
 Setup: EMI conducted  
 Mode: EUT ON. IDLE 1900 MHz. Negative wire noise.

## EC FCC Clase B ESIB26 CC



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**Max PK-AVG**

Frequency (MHz)	MaxPeak- ClearWrite (dBμV)	Average- ClearWrite (dBμV)
0.158000	32.4	19.2
0.162000	31.5	18.6
0.190000	32.2	18.9
0.194000	33.1	21.2
0.202000	30.2	18.7
0.222000	33.2	19.4
0.226000	32.0	19.8
0.254000	33.8	23.9
0.258000	34.0	25.6
0.286000	32.9	20.1
0.290000	33.3	20.3
0.318000	30.2	19.2
0.430000	34.0	30.5
0.434000	36.2	33.3
0.438000	30.7	26.6

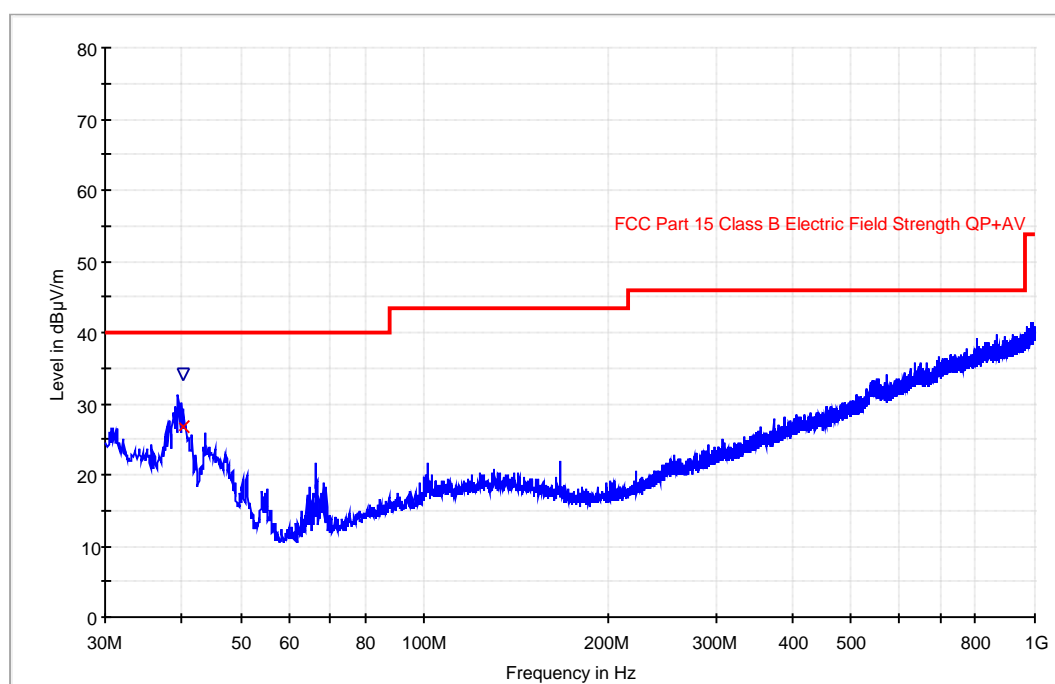
Radiated emission: CR0103 (30 MHz – 1000 MHz)

# EMC32 Report

## Test Information

Proyecto: 23133iem.002  
 Empresa: TELIT COMMUNICATIONS S.P.A.  
 Muestra: M/01  
 Modo operacion: MO#03  
 Fecha: 2006-02-20 14:30  
 Setup: EMI radiated  
 Mode: EUT ON. IDLE 850 MHz.

## FCC clase B



Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Antenna height (cm)	Polarity	Turntable position (deg)
40.137275	26.6	34.2	134.00	V	275.0

## DataReduction Detector1

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Antenna height (cm)	Polarity	Turntable position (deg)
39.500000	31.2	150.00	V	-2.0
43.800000	25.8	150.00	V	93.0
64.800000	18.3	150.00	V	-2.0
66.300000	21.6	150.00	V	93.0
166.700000	22.1	150.00	V	93.0
986.600000	41.3	150.00	V	-2.0

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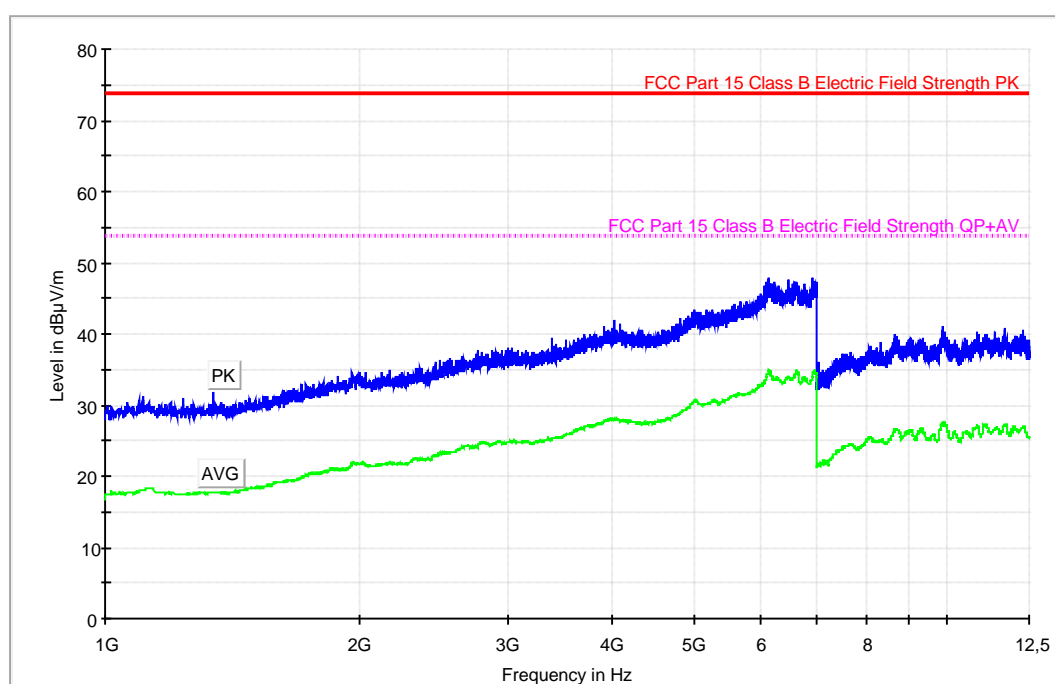
Radiated emission: CR0103 (1 GHz – 12,5 GHz). Horizontal polarization

# EMC32 Report

## Test Information

Proyecto: 23133iem.002  
 Empresa: TELIT COMMUNICATIONS S.P.A.  
 Muestra: M/01  
 Modo operacion: MO#03  
 Fecha: 2006-03-02 10:42  
 Setup: EMI radiated  
 Mode: EUT ON. Idle 850 MHz. Horizontal polarization.

## FCC 1-12.5GHz



## Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
6931.000000	47.8	34.4
9857.000000	41.2	27.6

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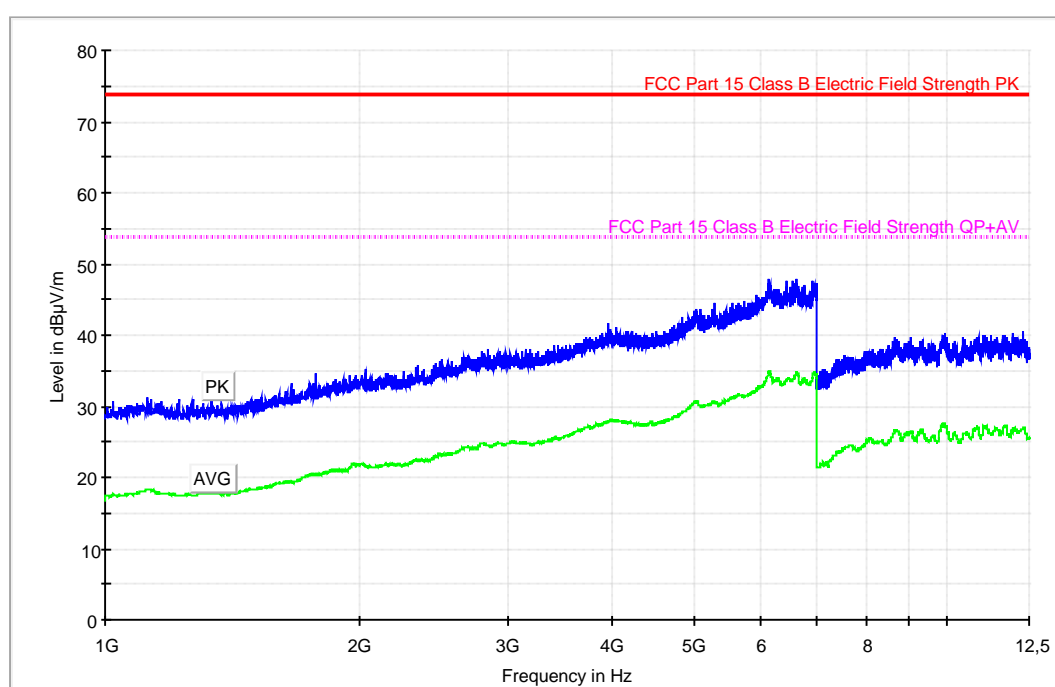
Radiated emission: CR0103 (1 GHz – 12,5 GHz) Vertical Polarization

# EMC32 Report

## Test Information

Proyecto:	23133iem.002
Empresa:	TELIT COMMUNICATIONS S.P.A.
Muestra:	M/01
Modo operacion:	MO#03
Fecha:	2006-03-02 10:44
Setup:	EMI radiated
Mode:	EUT ON. Idle 850 MHz. Vertical polarization.

## FCC 1-12.5GHz



## Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
6627.000000	48.0	34.8
12264.000000	40.7	26.9

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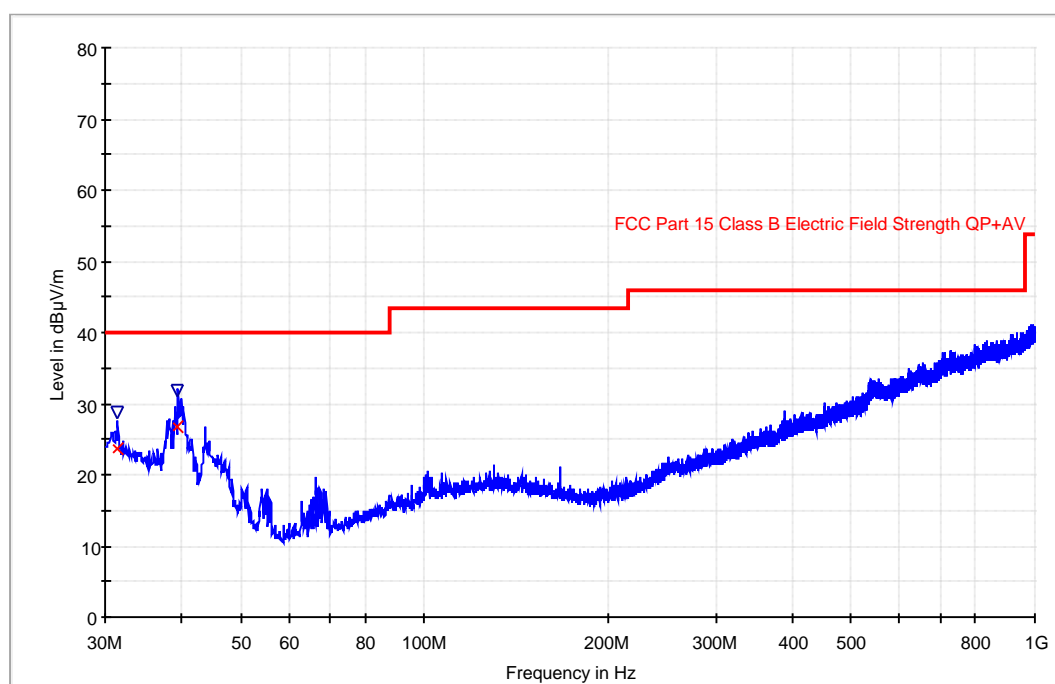
Radiated emission: CR0104 (30 MHz – 1000 MHz)

# EMC32 Report

## Test Information

Proyecto: 23133iem.002  
 Empresa: TELIT COMMUNICATIONS S.P.A.  
 Muestra: M/01  
 Modo operacion: MO#04  
 Fecha: 2006-02-20 13:51  
 Setup: EMI radiated  
 Mode: EUT ON. IDLE 1900 MHz.

## FCC class B



Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Antenna height (cm)	Polarity	Turntable position (deg)
31.398998	23.7	28.8	192.00	V	127.0
39.474950	26.6	31.8	136.00	V	273.0

## DataReduction Detector1

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Antenna height (cm)	Polarity	Turntable position (deg)
31.400000	27.6	150.00	V	-2.0
39.500000	32.1	150.00	V	-2.0
43.800000	26.9	150.00	V	-2.0
66.300000	19.8	150.00	V	93.0
130.100000	21.5	150.00	V	93.0
996.200000	41.2	150.00	H	93.0

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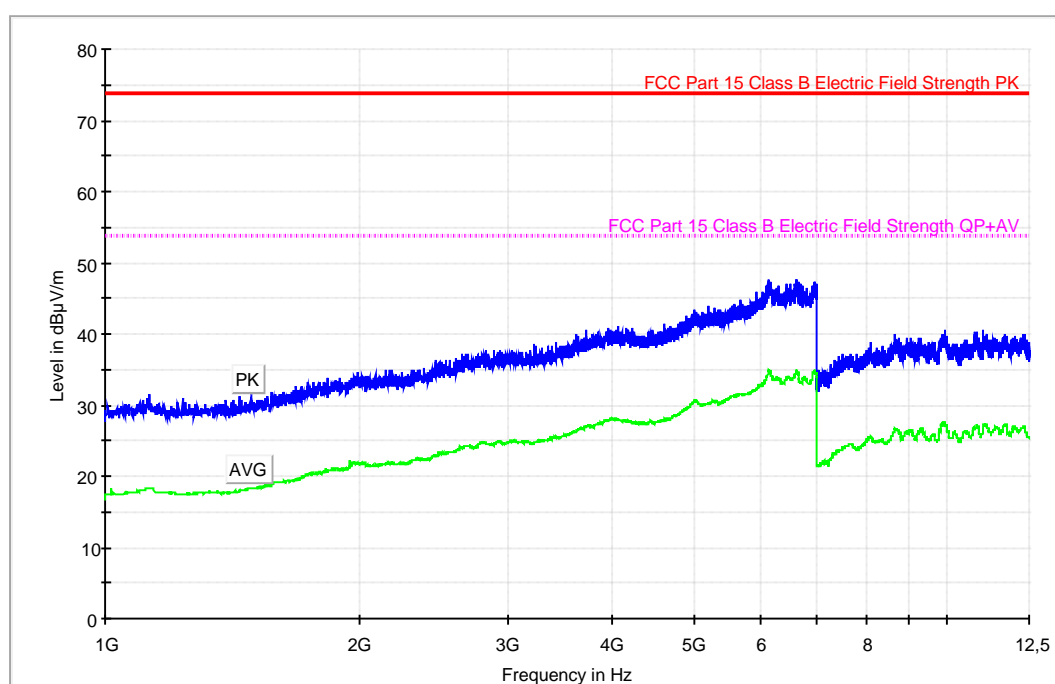
Radiated emission: CR0104 (1 GHz – 12,5 GHz). Horizontal polarization

# EMC32 Report

## Test Information

Proyecto:	23133iem.002
Empresa:	TELIT COMMUNICATIONS S.P.A.
Muestra:	M/01
Modo operacion:	MO#04
Fecha:	2006-03-02 10:44
Setup:	EMI radiated
Mode:	EUT ON. Idle 1900 MHz. Horizontal polartization.

## FCC 1-12.5GHz



## Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
6146.000000	47.6	34.8
9905.000000	40.6	27.6

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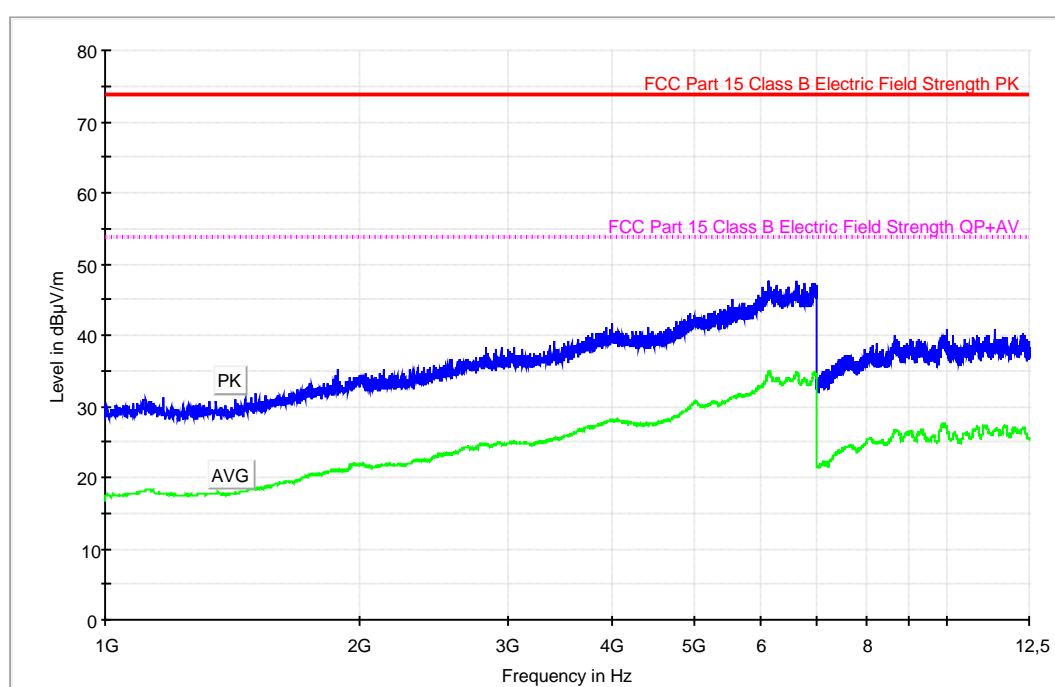
Radiated emission: CR0104 (1 GHz – 12,5 GHz) Vertical Polarization

## EMC32 Report

### Test Information

Proyecto:	23133iem.002
Empresa:	TELIT COMMUNICATIONS S.P.A.
Muestra:	M/01
Modo operacion:	MO#04
Fecha:	2006-03-02 10:45
Setup:	EMI radiated
Mode:	EUT ON. Idle 1900 MHz. Vertical polarization.

### FCC 1-12.5GHz



### Max PK-AVG

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
6617.000000	47.7	34.8
9963.000000	40.9	27.2

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## **ANNEX D**

### **PHOTOGRAPHS (Number of photographs: 5)**

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# 1. Equipment (front view)



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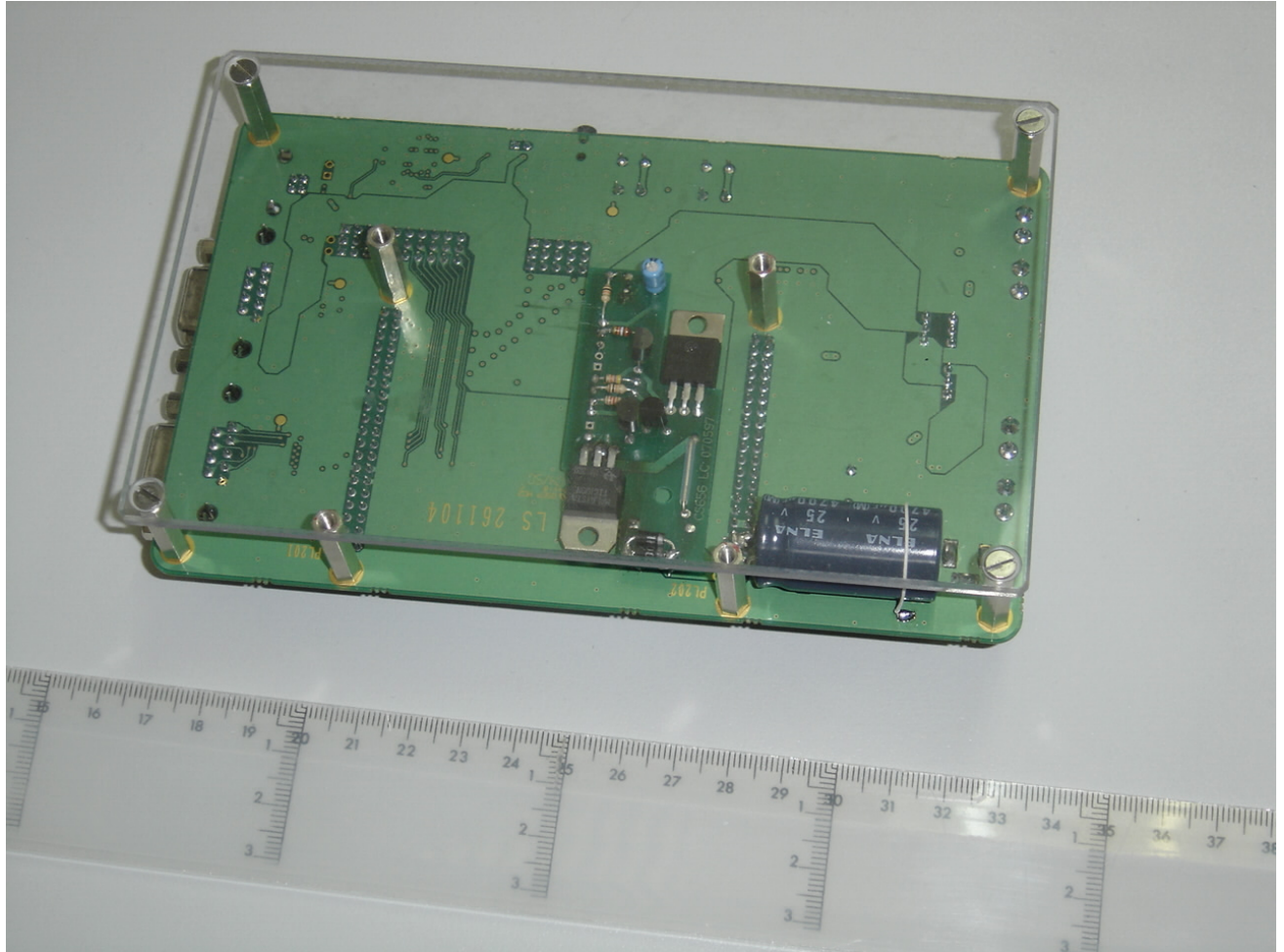
Date: 2006-03-21

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## 2. Equipment (back view)



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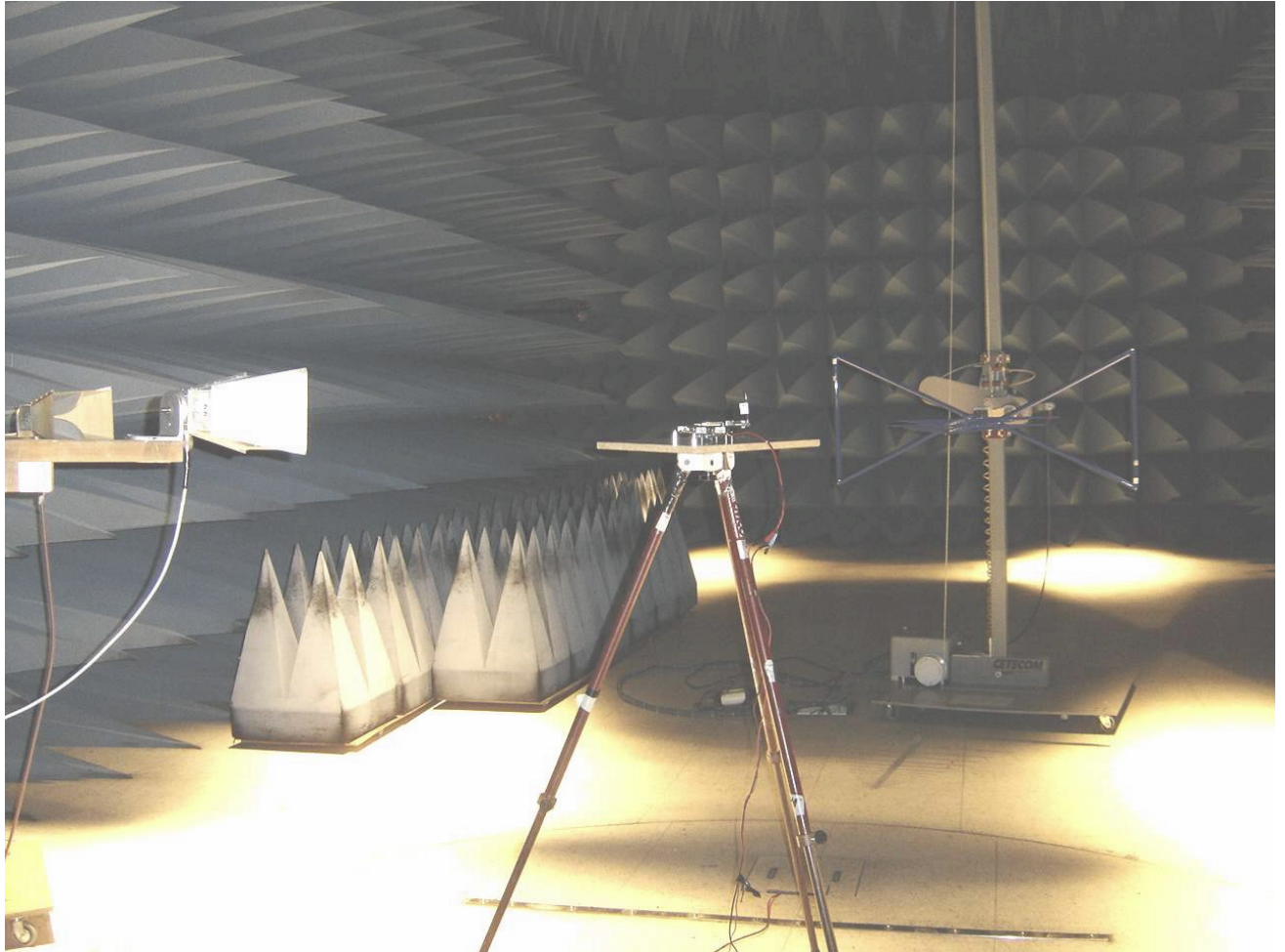
FET18\_00.DOC

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### 3. General test set-up for radiated measurements.



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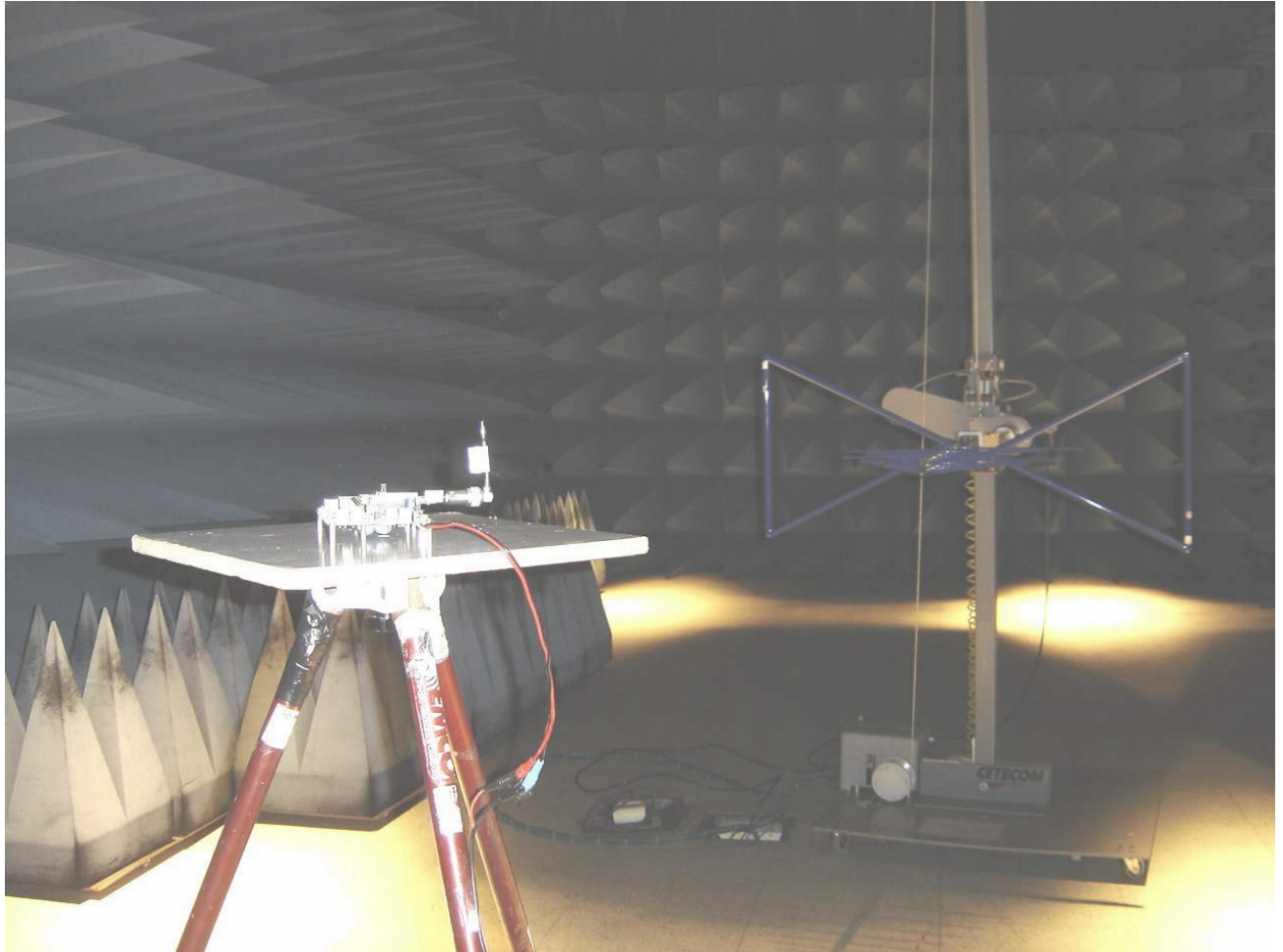
Date: 2006-03-21

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#### 4. Test set-up for radiated measurements below 1 GHz.



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5. Test set-up for radiated measurements above 1 GHz.



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