TEST REPORT
FROM
RFI GLOBAL SERVICES LTD

Test of: Siemens AG
Wolf 5.

To: FCC Part 24: 2004 (Subpart E)

Test Report Serial No:
RFI\MPTE1\RP71222JD02A

This Test Report Is Issued Under The Authority Of Andrew Brown, Operations Manager:  **pp**	
Tested By: Steven Wong 	**Checked By: Nigel Davison** 
Report Copy No: PDF01	
Issue Date: 16 September 2005	**Test Dates: 18 August 2005 to 24 August 2005**

This report is issued in Adobe Acrobat portable document format (PDF). It is only a valid copy of the report if it is being viewed in PDF format with the following security options not allowed: Changing the document, Selecting text and graphics, Adding or changing notes and form fields.
This report may be copied in full. The results in this report apply only to the sample(s) tested.

RFI Global Services Ltd
Pavilion A, Ashwood Park, Ashwood Way, Basingstoke, Hampshire RG23 8BG
Telephone: +44 (0)1256 312000 Facsimile: +44 (0)1256 312001
Email: info@rfi-global.com Website: www.rfi-global.com

Registered in England and Wales. Company number:2117901

This page has been left intentionally blank.

Table of Contents

1. Client Information

Company Name:	Siemens AG
Address:	COM MD PD HW1 KLF/Wolfgang Kosters Sudstr, 9 Kamp-Lintford D-47475
Contact Name:	Mr W. Koesters

2. Equipment Under Test (EUT)

The following information (with the exception of the Date of Receipt) has been supplied by the client:

2.1. Identification of Equipment Under Test (EUT)

Brand Name:	Siemens
Model Name or Number:	Wolf 5
Unique Type Identification:	S30880-S8900-A90-1
IMEI Number:	004400001046257
Hardware Version:	B2.2.2
Software Version:	W62502-MMT2-1.1.302
FCC ID Number:	PWX-SXG75
Country of Manufacture:	Germany
Date of Receipt:	18 August 2005

2.2. Accessories

The following accessories were supplied with the EUT:

Description:	UK AC Travel Charger
Brand Name:	Siemens
Model Name or Number:	ETC-510
Serial Number:	None Stated
Cable Length and Type:	1.8 m
Connected to Port:	Charger/Handsfree/Data Port
Date of Receipt:	18 August 2005

Description:	CLA Car Charger
Brand Name:	Siemens
Model Name or Number:	ECC-660
Serial Number:	None Stated
Cable Length and Type:	50 cm
Connected to Port:	Charger/Handsfree/Data Port
Date of Receipt:	18 August 2005

Description:	Headset PTT
Brand Name:	Siemens
Model Name or Number:	HHS-510
Serial Number:	None Stated
Cable Length and Type:	1.3m
Connected to Port:	Charger/Handsfree/Data Port
Date of Receipt:	18 August 2005

Accessories (Continued)

Description:	Stereo Headset
Brand Name:	Siemens
Model Name or Number:	HHS-700
Serial Number:	None Sttaed
Cable Length and Type:	1.3m
Connected to Port:	Charger/Handsfree/Data Port
Date of Receipt:	18 August 2005

Description:	Data Cable (USB)
Brand Name:	Siemens
Model Name or Number:	DCA-540
Serial Number:	None Stated
Cable Length and Type:	1.5m
Connected to Port:	Charger/Handsfree/Data Port
Date of Receipt:	18 August 2005

Accessories (Continued)

Description:	USB 4-Port Hub
Brand Name:	Belkin
Model Name or Number:	F5U024UKLI
Serial Number:	C401782282
Cable Length and Type:	Not Applicable
Connected to Port:	USB Port
Date of Receipt:	18 August 2005

Description:	Battery
Brand Name:	Siemens
Model Name or Number:	V30145-K1310-X256
Serial Number:	VAC5A050601
Cable Length and Type:	Not Applicable
Connected to Port:	Charger/Handsfree/Data Port
Date of Receipt:	18 August 2005

Description:	MMC Flash memory
Brand Name:	San Disk
Model Name or Number:	AA04096TD
Serial Number:	None Stated
Cable Length and Type:	Not Applicable
Connected to Port:	MMC Slot
Date of Receipt:	18 August 2005

2.3. Description of EUT

The equipment under test is a Dual-Mode 3G/GSM/GPRS tri-band mobile station with incorporated Bluetooth technology and FM Radio receiver. (Only the PCS 1900 MHz GSM/GPRS band is tested under FCC Part 24 Subpart E).

2.4. Modifications Incorporated in EUT

During the frequency stability test under voltage variation. A dummy battery was used in order to exercise the EUT at the battery end point.

2.5. Additional Information Related to Testing

Power Supply Requirement:	Nominal 115 V 60 Hz AC Mains supply via AC/DC adapter and Internal battery supply of 4.2 V.		
Intended Operating Environment:	Residential, Commercial, Light Industry, Within GSM Coverage and Within Bluetooth coverage and FM Radio coverage (Not tested under FCC Part 24).		
Equipment Category:	GSM 850/GSM 1900		
Type of Unit:	Portable (Standalone battery powered device)		
Temperature Range:	-30ºC to +50ºC		
Transmit Frequency Range:	1850.2 MHz to 1909.8 MHz		
Transmit Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Bottom	512	1850.2
	Middle	660	1879.8
	Top	810	1909.8
Receive Frequency Range:	1930.2 MHz to 1989.8 MHz		
Receive Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Bottom	512	1930.2
	Middle	660	1960.0
	Top	810	1989.8
Maximum Peak Power Output (EIRP)	28.4 dBm (measured)		

2.6. Port Identification

Port	Description	Type/Length	Applicable
1	Charger/Handsfree/Data Port	-	Y
2	Multimedia Card Slot	-	Y

2.7. Support Equipment

The following support equipment was used to exercise the EUT during testing:

Description:	4-Port USB Hub
Model Name or Number:	F5U024UKL1
Serial Number:	C401782282
Cable Length and Type:	Not Applicable
Connected to Port:	USB Port
Date of Receipt:	18 August 2005

Description:	Environmental Chamber
Brand Name:	Montford
Model Name or Number:	PHX73-R-JJJ
Serial Number:	319-K5561
Cable Length and Type:	Not Applicable
Connected to Port:	Not Applicable
Date of Receipt:	18 August 2005

3. Test Specification, Methods and Procedures

3.1. Test Specifications

Reference:	FCC Part 24 Subpart E: 2004 (Broadband PCS)
Title:	Code of Federal Regulations, Part 24 (47CFR24) Personal Communication Services.

3.2. Methods and Procedures

The methods and procedures used were as detailed in:

ANSI/TIA-603-B-2003
Land Mobile Communications Equipment, Measurements and performance Standards

ANSI C63.2 (1987)
Title: American National Standard for Instrumentation - Electromagnetic noise and field strength.

ANSI C63.4 (2003)
Title: American National Standard Methods of Measurement of Electromagnetic Emissions from Low Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.

ANSI C63.5 (1988)
Title: American National Standard for the Calibration of antennas used for Radiated Emission measurements in Electromagnetic Interference (EMI) control.

ANSI C63.7 (1988)
Title: American National Standard Guide for Construction of Open Area Test Sites for performing Radiated Emission Measurements.

CISPR 16-1: (1999)
Title: Specification For Radio Disturbance and Immunity Measuring Apparatus and Methods. Part 1: Radio Disturbance and Immunity Measuring Apparatus.

3.3. Definition of Measurement Equipment

The measurement equipment used complied with the requirements of the standards referenced in the methods & procedures section above. Appendix 1 contains a list of the test equipment used.

4. Deviations from the Test Specification

None.

5. Operation of the EUT during Testing

5.1. Operating Modes

The EUT was tested in the following operating modes, unless otherwise stated.

Preliminary radiated scans were performed on the EUT with the accessories stated in section 2.5 of this report connected and then disconnected. The combination that exhibited the worst-case of operation was then used to perform final measurements.
In transmit mode this was to be with the EUT operating in GPRS mode.
In Idle mode this was found to be with the EUT operating in GPRS mode.

Transmitter Modes:

For carrier output power, occupied bandwidth and final transmitter radiated measurements, testing was performed at full power on top, middle and bottom channels of the assigned frequency block. For frequency stability testing, measurements were performed at full power on the top and bottom channels of the assigned frequency block at -30ºC through to 50ºC in 10º increments.

All transmitter radiated spurious pre-scan tests were performed at full power on the top channel of the assigned frequency block. Final measurements were then performed on the top, middle and bottom channels if an emission was identified.

Receiver Modes:

Testing was performed with the call terminated from the GSM Test Simulator and the phone left in its Idle mode.

5.2. Configuration and Peripherals

The EUT was tested in the following configuration:

All radiated measurements were performed with EUT connected with the multimedia card and the UK AC/DC Adapter, as found to be the worst case configuration.

All conducted emissions measurements were performed with EUT connected with the multimedia card and EU AC/DC adapter, as found to be worst case configuration.

6. Summary of Test Results

Range of Measurements	Specification Reference	Port Type	Compliancy Status
Idle Mode AC Conducted Spurious Emissions (150 kHz to 30 MHz)	C.F.R. 47 FCC Part 15: 2004 Section 15.107	AC Mains Input	Complied
Idle Mode Radiated Spurious Emissions	C.F.R. 47 FCC Part 15: 2004 Section 15.109	Enclosure	Complied
Transmitter Effective Isotropic Radiated Power (EIRP)	C.F.R. 47 FCC Part 24: 2004 Section 24.232	Antenna	Complied
Transmitter Frequency Stability (Temperature Variation)	C.F.R. 47 FCC Part 24: 2004 Section 24.235	Antenna	Complied
Transmitter Frequency Stability (Voltage Variation)	C.F.R. 47 FCC Part 24: 2004 Section 24.235	Antenna	Complied
Transmitter Occupied Bandwidth	C.F.R. 47 FCC Part 24: 2004 Section 24.238	Antenna	Complied
Transmitter Out of Band Radiated Emissions	C.F.R. 47 FCC Part 24: 2004 Section 2.1053/24.238	Antenna	Complied
Transmitter Band Edge Radiated Emissions	C.F.R. 47 FCC Part 2: 2004 Section 2.1053/24.238	Antenna	Complied

6.1. Location of Tests

All the measurements described in this report were performed at the premises of RFI Global Services Ltd, Ewhurst Park, Ramsdell, Basingstoke, Hampshire, RG26 5RQ, England and also tested at RFI Global Services Ltd, Ashwood Park, Ashwood Way, Basingstoke, Hampshire, RG23 8BG, England.

7. Measurements, Examinations and Derived Results

7.1. General Comments

This section contains test results only.

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%.
Please refer to section 8 for details of measurement uncertainties.

7.2. Test Results

7.2.1. Idle Mode AC Conducted Spurious Emissions: Section 15.107

The EUT was configured as for ac conducted emission measurements as described in section 9 of this report.

Tests were performed to identify the maximum emissions levels present on the ac mains line of the EUT.

Results:

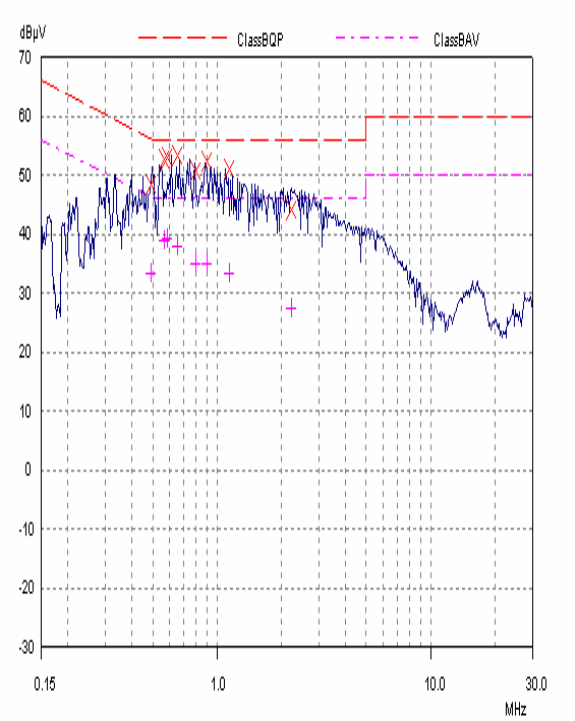
Quasi-Peak Detector Measurements on Live and Neutral Lines

Frequency (MHz)	Line	Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
0.48902	Live	48.27	56.18	7.91	Complied
0.56892	Live	52.71	56.00	3.29	Complied
0.58383	Live	52.92	56.00	3.08	Complied
0.65585	Live	53.20	56.00	2.80	Complied
0.79796	Neutral	50.81	56.00	5.19	Complied
0.89926	Live	52.28	56.00	3.72	Complied
1.15233	Neutral	50.89	56.00	5.11	Complied
2.24514	Live	44.08	56.00	11.92	Complied

Average Detector Measurements on Live and Neutral Lines

Frequency (MHz)	Line	Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
0.48902	Neutral	33.24	46.18	12.94	Complied
0.56892	Live	38.75	46.00	7.25	Complied
0.58383	Live	39.18	46.00	6.82	Complied
0.65585	Live	37.99	46.00	8.01	Complied
0.79796	Neutral	34.91	46.00	11.09	Complied
0.89926	Live	35.02	46.00	10.98	Complied
1.15233	Live	33.14	46.00	12.86	Complied
2.24514	Live	27.55	46.00	18.45	Complied

Idle Mode AC Conducted Spurious Emissions: Section 15.107 (Continued)



Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.

7.2.2. Idle Mode Radiated Spurious Emissions: Section 15.109 - Electric Field Strength Measurements (Frequency Range: 30 to 1000 MHz)

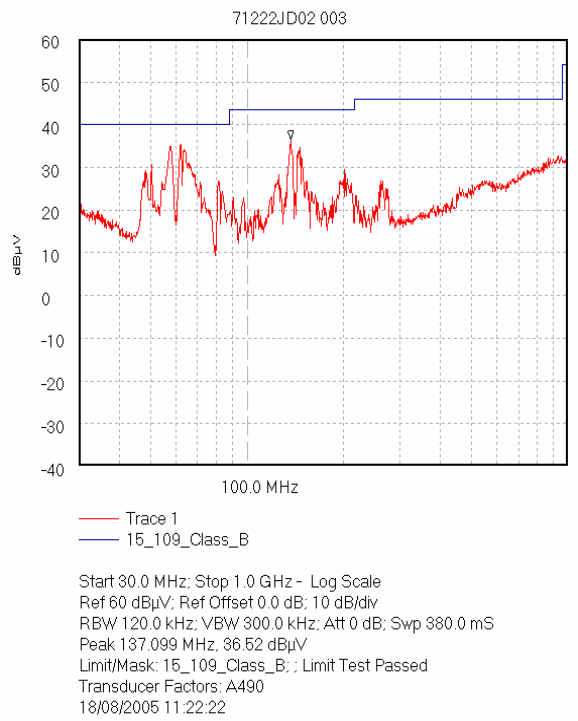
The EUT was configured as for receiver radiated emission testing as described in section 9 of this report.

Tests were performed to identify the maximum receiver or standby radiated emission levels.

Results:

Frequency (MHz)	Antenna Polarity	Quasi Peak Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
50.146	Vert.	16.1	40.0	23.9	Complied
57.601	Vert.	13.0	40.0	27.0	Complied
61.817	Vert.	10.4	40.0	29.6	Complied
135.622	Vert.	26.5	43.5	17.0	Complied
145.405	Horiz.	15.0	43.5	28.5	Complied
202.030	Vert.	11.0	46.0	35.0	Complied
260.000	Vert.	15.8	46.0	30.2	Complied

Idle Mode Radiated Spurious Emissions: Section 15.109 - Electric Field Strength Measurements (Frequency Range: 30 to 1000 MHz) (Continued)



Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.

7.2.3. Idle Mode Radiated Spurious Emissions: Section 15.109 - Electric Field Strength Measurements (Frequency Range: 1 to 10 GHz)

Results:

Peak Level:

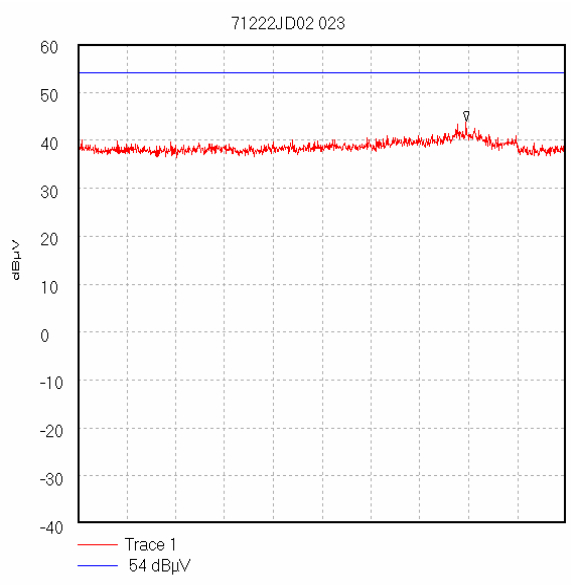
Frequency (GHz)	Antenna Polarity	Detector Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Actual Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
1797.179	Horiz.	22.7	21.6	0.7	45.0	74.0	29.0	Complied
3641.900	Horiz.	20.7	22.9	1.0	44.6	74.0	29.4	Complied
8393.249	Horiz.	8.9	30.3	1.7	40.9	74.0	33.1	Complied

Average Level:

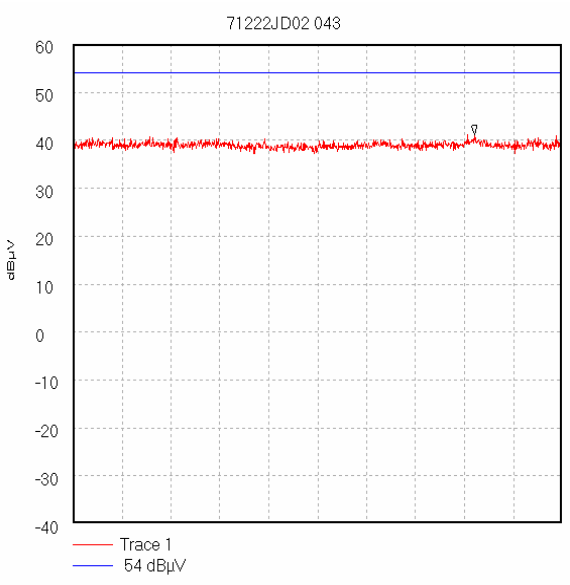
Frequency (GHz)	Antenna Polarity	Detector Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Actual Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
1797.179	Horiz.	6.9	21.6	0.7	29.2	54.0	24.8	Complied
3641.900	Horiz.	5.3	22.9	1.0	29.2	54.0	24.9	Complied
8393.249	Horiz.	-9.7	30.3	1.7	22.3	54.0	31.7	Complied

Test of: **Siemens AG**
Wolf 5.
To: **FCC Part 24: 2004 (Subpart E)**

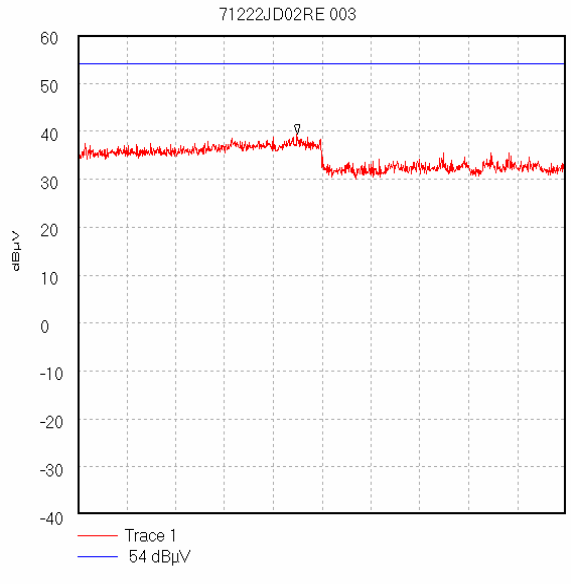
Idle Mode Radiated Spurious Emissions: Section 15.109 - Electric Field Strength Measurements (Frequency Range: 1 to 10 GHz) (Continued)



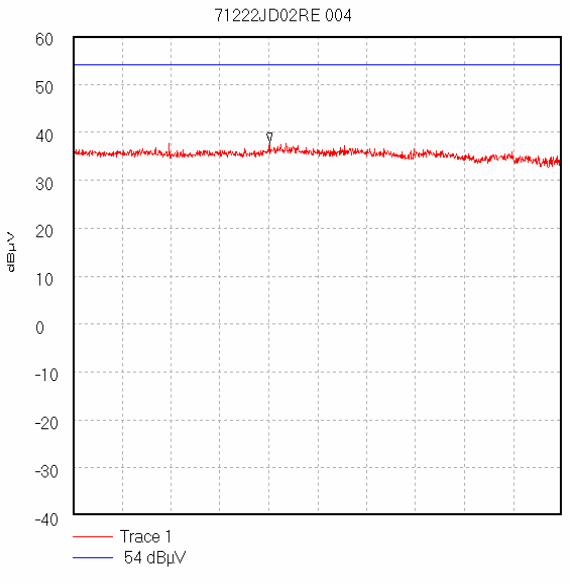
Start 1.0 GHz; Stop 2.0 GHz
Ref 60 dBµV; Ref Offset 0.0 dB; 10 dB/div
RBW 1000.0 kHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 1.795556 GHz, 43.91 dBµV
Display Line: 54 dBµV; ; Limit Test Passed
18/08/2005 14:51:23



Start 2.0 GHz; Stop 4.0 GHz
Ref 60 dBµV; Ref Offset 0.0 dB; 10 dB/div
RBW 1000.0 kHz; VBW 3.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 3.642222 GHz, 41.16 dBµV
Display Line: 54 dBµV; ; Limit Test Passed
18/08/2005 15:28:59



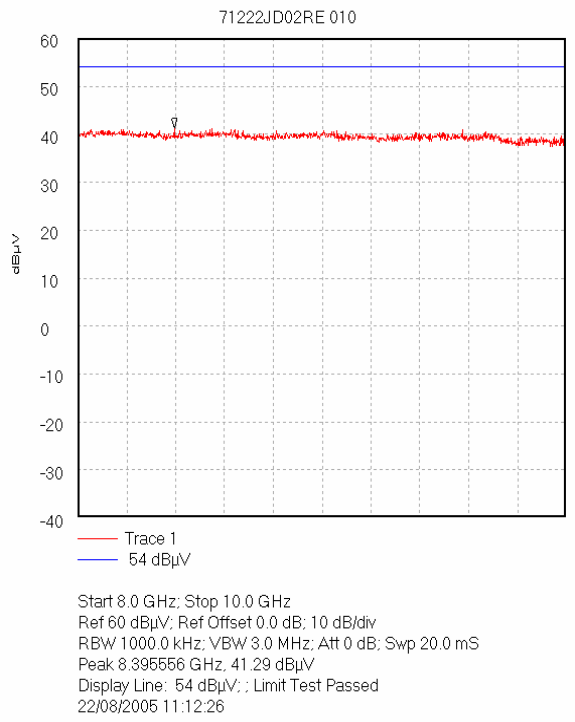
Start 4.0 GHz; Stop 6.0 GHz
Ref 60 dBµV; Ref Offset 0.0 dB; 10 dB/div
RBW 1000.0 kHz; VBW 3.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 4.897778 GHz, 39.49 dBµV
Display Line: 54 dBµV; ; Limit Test Failed
22/08/2005 10:54:55



Start 6.0 GHz; Stop 8.0 GHz
Ref 60 dBµV; Ref Offset 0.0 dB; 10 dB/div
RBW 1000.0 kHz; VBW 3.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 6.804444 GHz, 37.86 dBµV
Display Line: 54 dBµV; ; Limit Test Passed
22/08/2005 11:00:16

Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

Idle Mode Radiated Spurious Emissions: Section 15.109 - Electric Field Strength Measurements (Frequency Range: 1 to GHz) (Continued)



Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

7.2.4. Transmitter Effective Isotropic Radiated Power (EIRP): Section 24.232

The EUT was configured as for effective isotropic radiated power as described in section 9 of this report.

Tests were performed to identify the maximum effective isotropic radiated power (EIRP).

Results:

Channel	Measured Frequency (MHz)	Antenna Polarity	Maximum Transmitter EIRP (dBm)	Limit EIRP (dBm)	Margin (dB)	Result
Bottom	1850.2	Vert.	26.7	33.0	6.3	Complied
Middle	1879.8	Horiz.	27.3	33.0	5.7	Complied
Top	1909.8	Horiz.	28.4	33.0	4.6	Complied

7.2.5. Transmitter Frequency Stability (Temperature Variation): Section 24.235

The EUT was configured as for frequency stability measurements as described in section 9 of this report.

Tests were performed to identify the maximum frequency error of the EUT with variations in ambient temperature.

Results:

Bottom Channel (1850.2 MHz)

Temperature (ºC)	Frequency Error (Hz)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Margin (MHz)	Result
-30	-36	1850.199964	1850.0	0.199964	Complied
-20	-28	1850.199972	1850.0	0.199972	Complied
-10	-24	1850.199976	1850.0	0.199976	Complied
0	-22	1850.199978	1850.0	0.199978	Complied
10	-27	1850.199973	1850.0	0.199973	Complied
20	-42	1850.199958	1850.0	0.199958	Complied
30	-92	1850.199908	1850.0	0.199908	Complied
40	-73	1850.199927	1850.0	0.199927	Complied
50	-40	1850.199960	1850.0	0.199960	Complied

Transmitter Frequency Stability (Temperature Variation): Section 24.235 (Continued)

Results:

Top Channel (1909.8 MHz)

Temperature (ºC)	Frequency Error (Hz)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Margin (MHz)	Result
-30	89	1909.800089	1910.0	0.199911	Complied
-20	65	1909.800065	1910.0	0.199935	Complied
-10	61	1909.800061	1910.0	0.199939	Complied
0	65	1909.800065	1910.0	0.199935	Complied
10	64	1909.800064	1910.0	0.199936	Complied
20	71	1909.800071	1910.0	0.199929	Complied
30	37	1909.800037	1910.0	0.199963	Complied
40	31	1909.800031	1910.0	0.199969	Complied
50	19	1909.800019	1910.0	0.199981	Complied

7.2.6. Transmitter Frequency Stability (Voltage Variation): Section 24.235

The EUT was configured as for frequency stability measurements as described in section 9 of this report.

Tests were performed to identify the maximum frequency error of the EUT with variations in nominal operating voltage.

Results:

Bottom Channel (1850.2 MHz)

Supply Voltage (V)	Frequency Error (Hz)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Margin (MHz)	Result
4.2	-42	1850.199958	1850	0.199958	Complied
3.35	-2	1850.199998	1850	0.199998	Complied

Top Channel (1909.8 MHz)

Supply Voltage (V)	Frequency Error (Hz)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Margin (MHz)	Result
4.2	71.0	1909.800071	1910	0.199929	Complied
3.35	35.0	1909.800035	1910	0.199965	Complied

7.2.7. Transmitter Occupied Bandwidth: Section 24.238

The EUT was configured as for occupied bandwidth measurements as described in section 9 of this report.

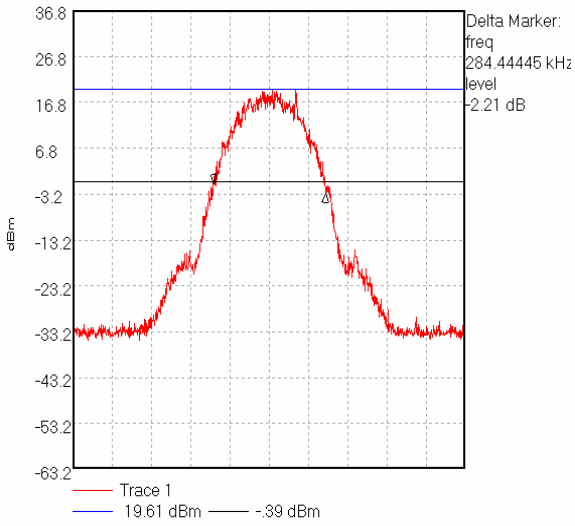
Tests were performed to identify the maximum bandwidth occupied by the fundamental frequency of the EUT.

Results:

Channel	Frequency (MHz)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	Occupied Bandwidth (kHz)
Bottom	1850.2	3.0	10.0	284.44445
Middle	1879.8	3.0	10.0	284.44445
Top	1909.8	3.0	10.0	287.77778

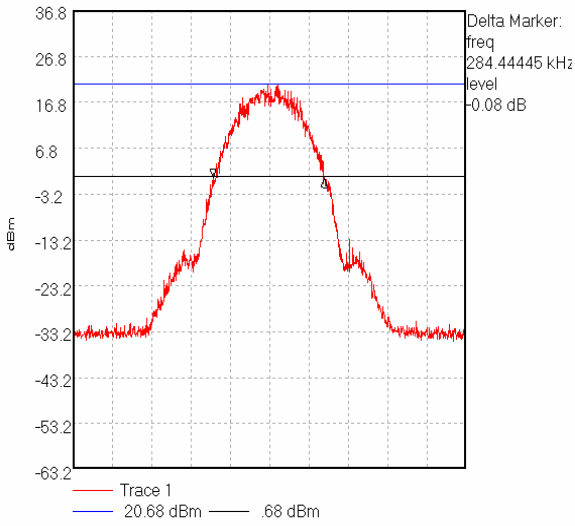
Transmitter Occupied Bandwidth: Section 24.238 (Continued)

71222JD02RE 023



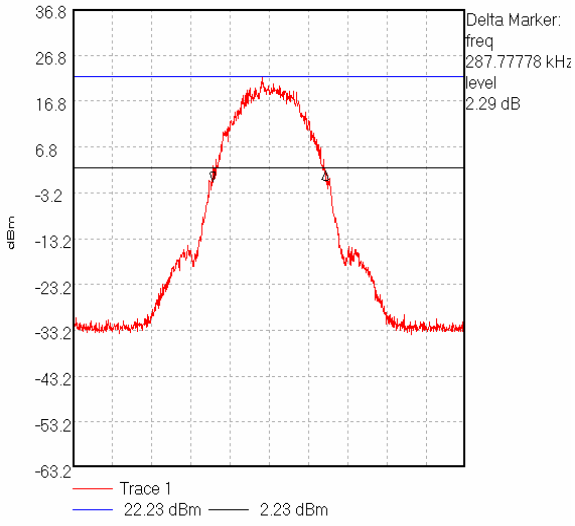
Start 1.8497 GHz; Stop 1.8507 GHz
Ref 36.8 dBm; Ref Offset 11.8 dB; 10 dB/div
RBW 3.0 kHz; VBW 10.0 kHz; Att 35 dB; Swp 340.0 mS
Marker 1.850059 GHz, -0.98 dBm
Delta 1.850343 GHz, -3.19 dBm
Display Line: 19.61 dBm; -.39 dBm;
22/08/2005 14:55:40

71222JD02RE 024



Start 1.8793 GHz; Stop 1.8803 GHz
Ref 36.8 dBm; Ref Offset 11.8 dB; 10 dB/div
RBW 3.0 kHz; VBW 10.0 kHz; Att 35 dB; Swp 340.0 mS
Marker 1.879656 GHz, 0.29 dBm
Delta 1.87994 GHz, 0.21 dBm
Display Line: 20.68 dBm; .68 dBm;
22/08/2005 15:02:05

71222JD02RE 025



Start 1.9093 GHz; Stop 1.9103 GHz
Ref 36.8 dBm; Ref Offset 11.8 dB; 10 dB/div
RBW 3.0 kHz; VBW 10.0 kHz; Att 35 dB; Swp 340.0 mS
Marker 1.909657 GHz, -0.78 dBm
Delta 1.909944 GHz, 1.51 dBm
Display Line: 22.23 dBm; 2.23 dBm;
22/08/2005 15:07:28

7.2.8. Transmitter Out of Band Radiated Emissions: Section 2.1051 & 24.238

The EUT was configured as for transmitter radiated emission measurements as described in section 9 of this report.

Tests were performed to identify the maximum transmitter conducted emission levels.

Results:

Bottom Channel

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dB)	Result
3700.323	-35.6	-13.0	22.6	Complied
4780.361	-32.5	-13.0	19.5	Complied

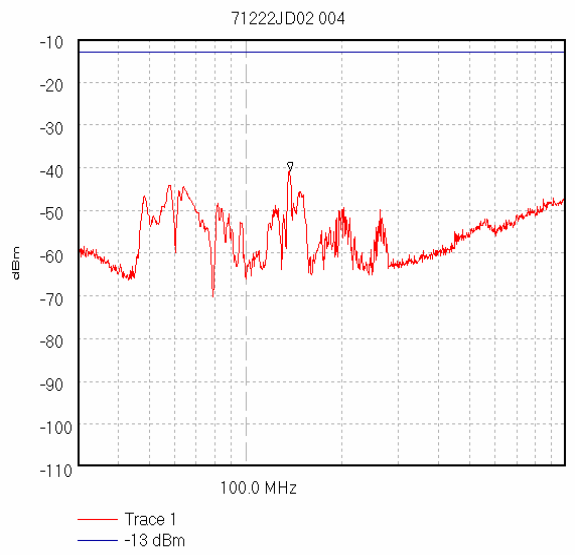
Middle Channel

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dB)	Result
3759.533	-35.3	-13.0	22.3	Complied
4780.888	-32.2	-13.0	19.2	Complied

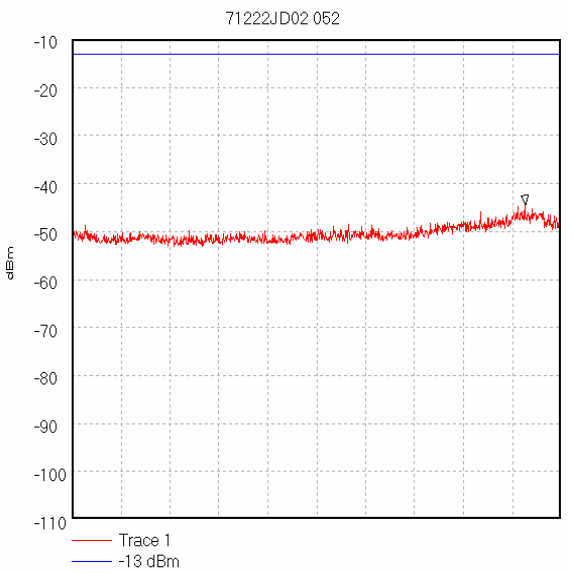
Top Channel

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dB)	Result
3819.670	-32.1	-13.0	19.1	Complied
4781.881	-32.3	-13.0	19.3	Complied

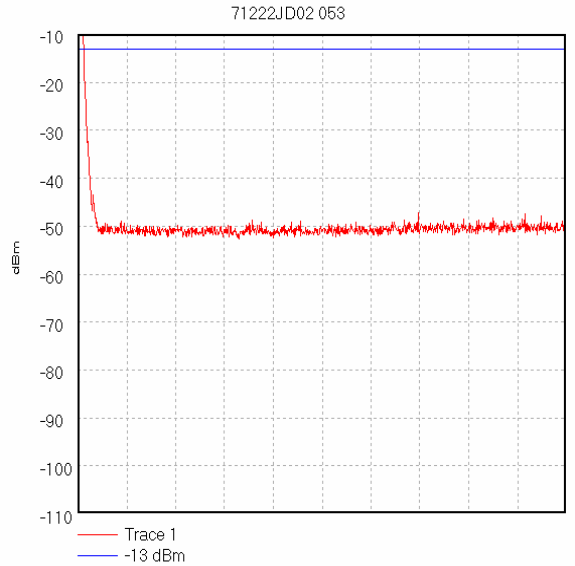
Transmitter Out of Band Radiated Emissions: Section 2.1051 & 24.238 (Continued)



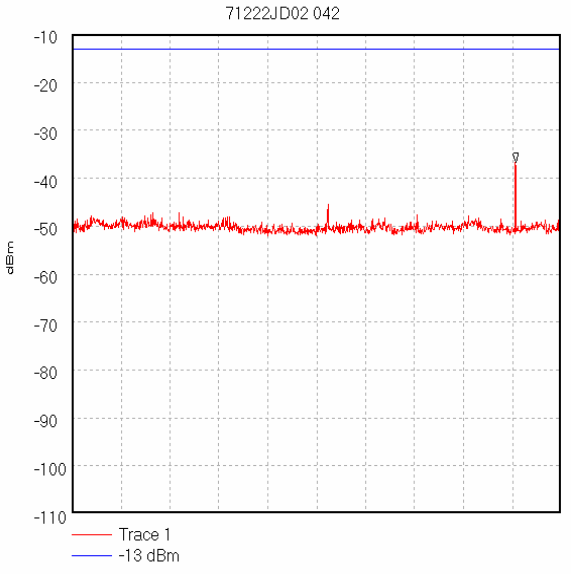
Start 30.0 MHz; Stop 1.0 GHz - Log Scale
Ref -10 dBm; Ref Offset 11.8 dB; 10 dB/div
RBW 1000.0 kHz; VBW 3.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 137.635 MHz, -40.8 dBm
Display Line: -13 dBm; ; Limit Test Passed
Transducer Factors: A490
18/08/2005 11:40:22



Start 1.0 GHz; Stop 1.85 GHz
Ref -10 dBm; Ref Offset 11.8 dB; 10 dB/div
RBW 1000.0 kHz; VBW 3.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 1.787667 GHz, -44.45 dBm
Display Line: -13 dBm; ; Limit Test Passed
18/08/2005 15:42:16

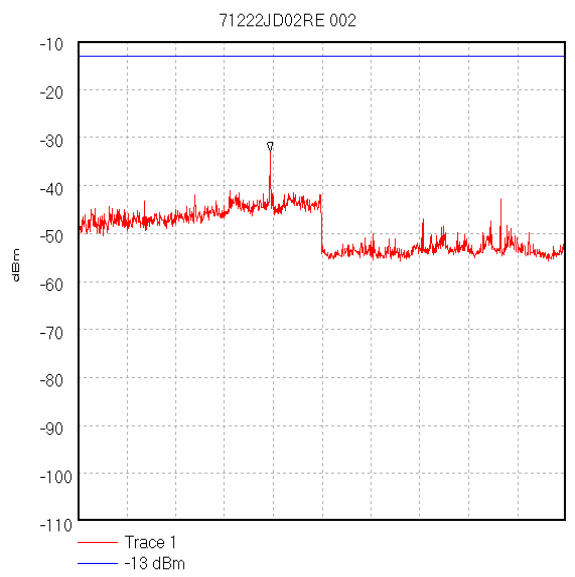


Start 1.91 GHz; Stop 2.0 GHz
Ref -10 dBm; Ref Offset 11.8 dB; 10 dB/div
RBW 1000.0 kHz; VBW 3.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 1.9104 GHz, -6.02 dBm
Display Line: -13 dBm; ; Limit Test Failed
18/08/2005 15:42:52

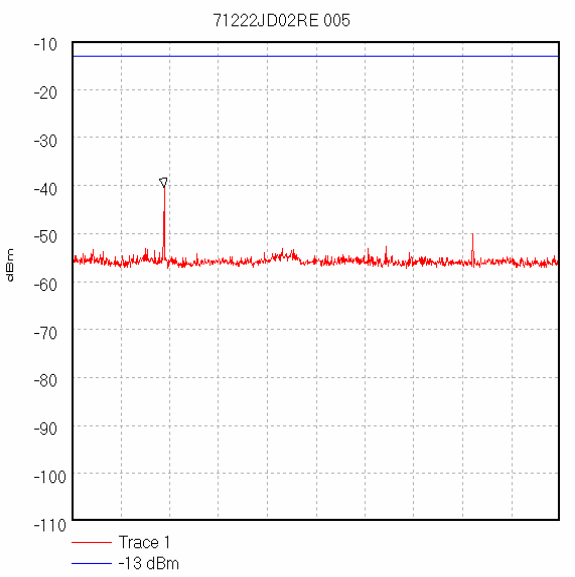


Start 2.0 GHz; Stop 4.0 GHz
Ref -10 dBm; Ref Offset 11.8 dB; 10 dB/div
RBW 1000.0 kHz; VBW 3.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 3.813333 GHz, -36.63 dBm
Display Line: -13 dBm; ; Limit Test Passed
18/08/2005 15:22:15

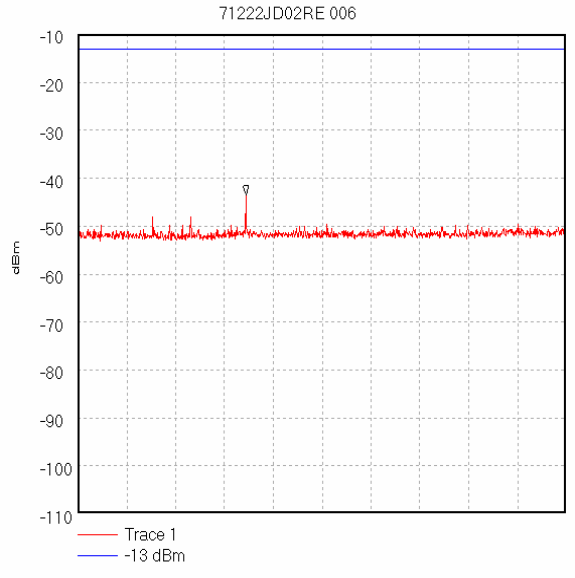
Transmitter Out of Band Radiated Emissions: Section 2.1051 & 24.238 (Continued)



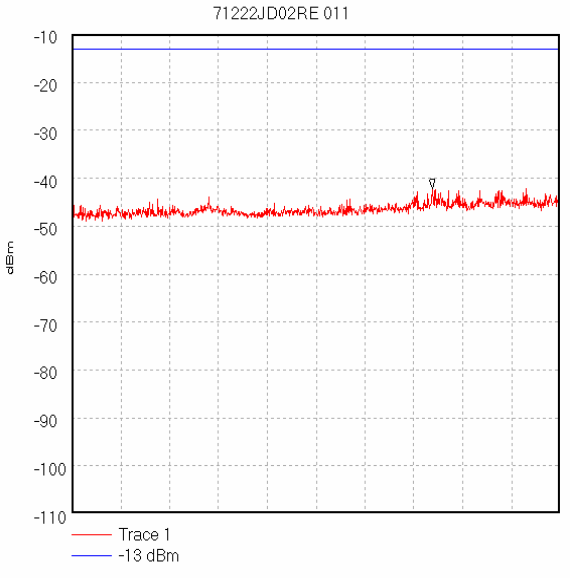
Start 4.0 GHz; Stop 6.0 GHz
Ref -10 dBm; Ref Offset 11.8 dB; 10 dB/div
RBW 1000.0 kHz; VBW 3.0 MHz; Att 5 dB; Swp 20.0 mS
Peak 4.786667 GHz, -32.9 dBm
Display Line: -13 dBm; ; Limit Test Passed
22/08/2005 10:40:33



Start 6.0 GHz; Stop 8.0 GHz
Ref -10 dBm; Ref Offset 11.8 dB; 10 dB/div
RBW 1000.0 kHz; VBW 3.0 MHz; Att 0 dB; Swp 20.0 mS
Peak 6.377778 GHz, -40.37 dBm
Display Line: -13 dBm; ; Limit Test Passed
22/08/2005 11:03:12



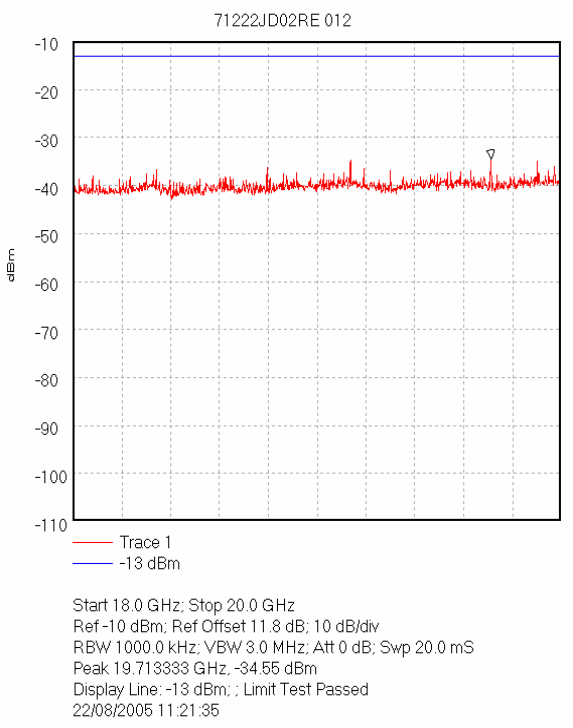
Start 8.0 GHz; Stop 12.5 GHz
Ref -10 dBm; Ref Offset 11.8 dB; 10 dB/div
RBW 1000.0 kHz; VBW 3.0 MHz; Att 0 dB; Swp 40.0 mS
Peak 9.55 GHz, -43.44 dBm
Display Line: -13 dBm; ; Limit Test Passed
22/08/2005 11:08:09



Start 12.5 GHz; Stop 18.0 GHz
Ref -10 dBm; Ref Offset 11.8 dB; 10 dB/div
RBW 1000.0 kHz; VBW 3.0 MHz; Att 0 dB; Swp 40.0 mS
Peak 16.563889 GHz, -42.12 dBm
Display Line: -13 dBm; ; Limit Test Passed
22/08/2005 11:17:23

Test of: Siemens AG
Wolf 5.
To: FCC Part 24: 2004 (Subpart E)

Transmitter Out of Band Conducted Emissions: Section 2.1051 & 24.238 (Continued)



Transmitter Out of Band Radiated Emissions: Section 2.1051 & 24.238 (Continued)

Integrated Power Over 1 MHz Strip Band: 1911 to 1912 MHz

1st 1 MHz block immediately outside adjacent frequency block

100 kHz Strip Number	Peak Power (nW/100 kHz)	100 kHz Strip Number	Peak Power (nW/100 kHz)
1	797.998	6	102.094
2	278.613	7	127.351
3	132.740	8	72.611
4	100.231	9	88.716
5	101.392	10	97.949
Total Peak Power:	1899.695 nW/MHz		

Integrated Power Over 1 MHz Strip Band: 1912 to 1913 MHz

2nd 1 MHz block immediately outside adjacent frequency block

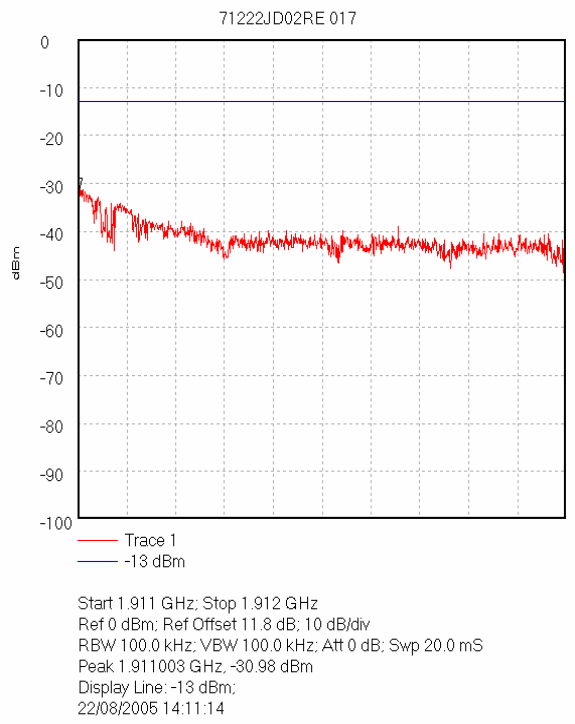
100 kHz Strip Number	Peak Power (nW/100 kHz)	100 kHz Strip Number	Peak Power (nW/100 kHz)
1	91.201	6	31.842
2	52.966	7	38.637
3	55.591	8	35.810
4	35.810	9	35.156
5	37.068	10	24.946
Total Peak Power:	439.027 nW/MHz		

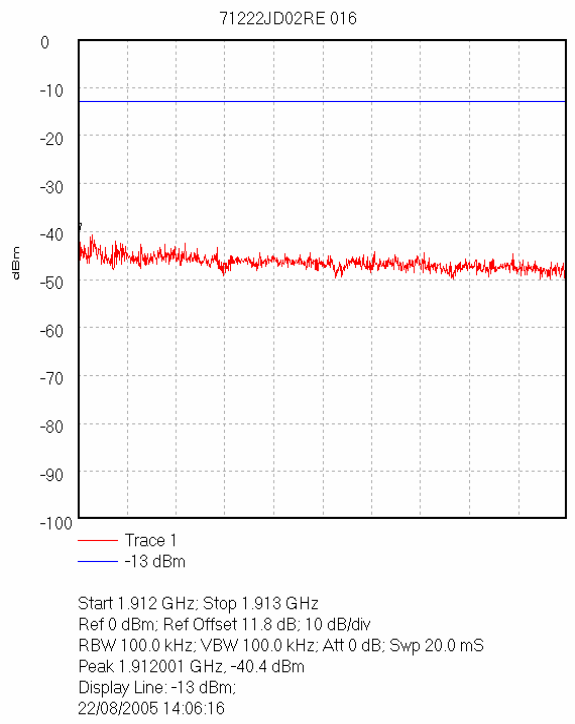
Results:

Band (MHz)	Peak Power (nW/MHz)	Peak Power (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Status
1911 to 1912	1899.695	-27.2	-13.0	14.2	Complied
1912 to 1913	439.027	-33.6	-13.0	20.6	Complied

Test of: **Siemens AG**
Wolf 5.
To: **FCC Part 24: 2004 (Subpart E)**

Transmitter Out of Band Conducted Emissions: Section 2.1051 & 24.238 (Continued)





7.2.9. Transmitter Radiated Emissions at Band Edges: Section 2.1053 & 24.238

The EUT was configured as for transmitter radiated emissions testing described in section 9 of this report.

Tests were performed to identify the maximum emissions level at the band edges of the frequency block that the EUT will operate over.

Results:

Bottom Band Edge

Frequency (MHz)	Spurious Emission (dBm)	Limit (dBm)	Margin (dB)	Result
1850	-173	-13.0	4.3	Complied

Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Limit (dBm)	Margin (dB)	Result
1910	-19.0	-13.0	6.0	Complied

8. Measurement Uncertainty

No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently, the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

The uncertainty of the result may need to be taken into account when interpreting the measurement results.

The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor, such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

Measurement Type	Range	Confidence Level (%)	Calculated Uncertainty
AC Conducted Spurious Emissions	0.15 MHz to 30 MHz	95%	±3.25 dB
Carrier Output Power	Not applicable	95%	±0.46 dB
Conducted Emissions	9 kHz to 26 GHz	95%	±1.2 dB
Conducted Emissions Antenna Port	30 MHz to 40 GHz	95%	±1.2 dB
Effective Isotropic Radiated Power (EIRP)	Not applicable	95%	±1.78 dB
Frequency Stability	Not applicable	95%	±20 Hz
Minimum Bandwidth	Not applicable	95%	±0.12%
Occupied Bandwidth	1850 to 1910 MHz	95%	±0.12%
Radiated Spurious Emissions	30 MHz to 1000 MHz	95%	±5.26 dB
Radiated Spurious Emissions	1 GHz to 26 GHz	95%	±1.78 dB

The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty, the published guidance of the appropriate accreditation body is followed.

9. Measurement Methods

9.1. Conducted Output Power

The EUT was connected to a spectrum analyser and to a GSM test set via suitable cables, RF attenuators and combiners.

The connection was made to the EUT either via an antenna port or by antenna terminals made available by the client.

The total loss of the cables, attenuators and combiner were measured and entered as a reference level offset into the measuring receiver to correct for the losses.

The EUT was set to the required channel and the transmitter set to operate at full power.

A marker was set to the maximum indicated peak and the conducted power was recorded.

This test was performed on the bottom, middle and top channels.

The test equipment settings for conducted antenna port measurements were as follows:

Receiver Function	Setting
Detector Type:	Peak
Mode:	Max Hold
Bandwidth:	1 MHz
Amplitude Range:	100 dB
Step Size:	Continuous sweep
Sweep Time:	Coupled

9.2. Effective Isotropic Radiated Power (EIRP)

EIRP measurements were performed in accordance with the standard, against appropriate limits.

The EIRP was measured with the EUT arranged on a non-conducting turn table on a standard test site compliant with ANSI C63.4 – 2003 Clause 5.4. The transmitter was fitted with an integral antenna; therefore all radiated tests were performed with the unit operating into the integral antenna.

The level of the EIRP was measured using a spectrum analyser.

The test antenna was positioned in the horizontal plane. The EUT was oriented in the X plane. The test antenna was then raised and lowered until a maximum peak was observed. The turntable was then rotated through 360 degrees and the maximum peak reading obtained. The height search was then repeated to take into consideration the new angular position of the turntable. The maximum reading observed was then recorded. This procedure was then repeated with the EUT oriented in the Y and Z planes. The highest reading taken in all 3 planes was recorded. The entire procedure was then repeated with the test antenna set in the vertical polarity.

Once the final amplitude (maximised) had been obtained, the EUT was substituted with a substitution antenna. For EIRP measurements a Horn antenna whose gain was based on an isotropic antenna was used, ERP measurements were done using a dipole. The centre of the substitution antenna was set to approximately the same centre location as the EUT. The substitution antenna was set to the horizontal polarity. The substitution antenna was matched into a signal generator using a 6 dB or greater attenuator. The signal generator was tuned to the EUT's frequency under test.

The test antenna was then raised and lowered to obtain a maximum reading on the spectrum analyser. The level of the signal generator output was then adjusted until the maximum recorded EUT level was observed. The signal generator level was noted. This procedure was repeated with both test antenna and substitution antenna vertically polarised. The EIRP was calculated as:-

EIRP = Signal Generator Level - Cable Loss + Antenna Gain

All measurements were performed using broadband Horn antennas.

Effective Isotropic Radiated Power (EIRP) (Continued)

Circumstances where the signal generator could not produce the desired power substitution was performed with the signal generator set to 0 dBm. The radiated signal was maximised as previously described. The level indicated on the measuring receiver was noted. The delta between this level and the maximum level for the EUT was calculated and also noted. The EIRP of the signal generator was calculated using the above formulae. The recorded delta was added to the calculated EIRP to obtain the substituted EUT EIRP.

Delta (dB) = EUT – SG

where :

EUT = spectrum analyser indicated EUT raw level

SG = spectrum analyser indicated signal generator raw level

The signal generator actual EIRP is calculated as:

EIRP SG= Signal Generator Level - Cable Loss + Antenna Gain

The EUT EIRP is calculated as:

EIRP EUT = EIRP SG + Delta.

The test equipment settings for EIRP measurements were as follows:

Receiver Function	Setting
Detector Type:	Peak
Mode:	Not applicable
Bandwidth:	1 MHz
Amplitude Range:	100 dB
Sweep Time:	Coupled

9.3. Frequency Stability

The EUT was situated within an environmental test chamber and connected directly to the GSM test set via an access port.

Measurements were performed with the EUT operating under extremes of temperature in 10 degree increments within the range -30 to 50 ºC.

Measurements were also performed at voltage extremes between the declared nominal supply voltage and at the declared endpoint voltage (for hand carried battery operated equipment) or by varying the primary supply voltage from 85% to 115% of the nominal value for all other equipment types.

The requirement was to determine the frequency stability of the device under specified environmental operating conditions and ensure they remained within specified operating parameters.

Measurements were made on the top and bottom channels.

The EUT was switched off for a minimum of 30 minutes between each stage of testing while the environmental chamber stabilised at the next temperature within the stated temperature range.

Once the environmental chamber had reached thermal equilibrium, the nominal frequency of the EUT was measured and recorded. The recorded frequency was compared to the applicants declared operating frequency band edges.

In order to show compliance, the measured frequency must remain within the declared frequency band.

The reported data shows the nominal frequency drift and its margin from the band edge. If this margin is positive, the result is compliant. If it goes negative, the result is a non-compliance. There is also a frequency graph presented offering the frequency variation around nominal frequency.

9.4. Occupied Bandwidth

The EUT was connected to a spectrum analyser enabled with an occupied bandwidth function and a GSM test set via a bi-directional coupler to its antenna port.

Measurements were performed to determine the occupied bandwidth in accordance with FCC Part 2.1049. The occupied bandwidth was measured from the fundamental emission at the bottom middle and top channels.

As the EUT is a PCS phone, no modulation input port was available. A call was therefore set up using the PCS/GSM simulator and using normal modulation. The occupied bandwidth was measured in this configuration.

The Occupied Bandwidth was measured using the built in occupied bandwidth function of the Rohde and Schwarz FSEB or ESIB spectrum analyser. It was set to measure the bandwidth where 99% of the signal power was contained. The analyser settings were set as per those outlined in the spectrum analyser user manual for this measurement, i.e., RBW $\geq$1% of occupied bandwidth. A value of 3 kHz was used.

9.5. Transmitter Conducted Emissions Measurements

The test was performed in a laboratory environment.

Spurious emission measurements at the antenna port were performed from the lowest declared frequency to 10 times the highest EUT fundamental frequency.

A measuring receiver was connected to the antenna port of the EUT via a suitable cable and RF Attenuator. The total loss of both the cable and the attenuator were measured and entered as a reference level offset into the measuring receiver to correct for the losses.

The limit in the standard states that emissions shall be attenuated by at least 43+10 log (P) dB below the transmitter power (P), where (P) is the maximum measured fundamental power for the channel under test. This limit always reduces to -13 dBm therefore, the limit line presented on the accompanying plots is set to -13 dBm.

The frequency band described above was investigated with the transmitter operating at full power on the top, bottom and middle channels. Any spurious observed were then recorded and compared to the -13 dBm limit. The requirement is for the emission to be less than -13 dBm. The margin between emission and limit is recorded and should always be positive to indicate compliance.

It should be noted that FCC Part 24.238 states that the 1st MHz band immediately adjacent to the applicants declared frequency block may be measured using a resolution bandwidth of at least 1% of the emission bandwidth. This bandwidth was found to be 3 kHz

The measurements in the 2nd and 3rd 1 MHz blocks away from the adjacent 1 MHz block from 1911 MHz to 1912 MHz and 1912 MHz to 1913 MHz were carried out using an analyser span of 1 MHz and a 100 kHz receiver resolution bandwidth (RBW). 10 linear readings were taken for each 100 kHz strip across the 1 MHz band. These readings were integrated to give the emission level in an equivalent 1 MHz bandwidth.

The test equipment settings for conducted antenna port measurements were as follows:

Receiver Function	Settings
Detector Type:	Peak
Mode:	Max Hold
Bandwidth:	1 MHz >1 GHz
Bandwidth:	10 kHz <1 GHz
Amplitude Range:	100 dB
Step Size:	Continuous sweep
Sweep Time:	Coupled

The resolution bandwidth used for measurements in the 1 MHz blocks either side of the declared operating frequency block were set as described in the procedure above.

9.6. AC Mains Conducted Emissions

AC mains conducted emissions measurements were performed in accordance with the standard, against appropriate limits for each detector function.

The test was performed in a shielded enclosure with the equipment arranged as detailed in the standard on a wooden bench using the floor of the screened enclosure as the ground reference plane. The EUT was powered with 115V 60 Hz AC mains supplied via a line impedance stabilisation network (LISN).

Initial measurements in the form of swept scans covering the entire measurement band were performed in order to identify frequencies on which the EUT was generating interference. In order to minimise the time taken for these swept measurements, a peak detector was used in conjunction with the appropriate detector IF measuring bandwidths (see table below). Repetitive scans were performed to allow for emissions with low repetition rates, and the duty cycle of the EUT. The test configuration was the same for the initial scans as for the final measurements.

Following the initial scans, a graph was produced giving an overview of the emissions from the EUT plotted against the appropriate specification limit. A tolerance line was set 6 dB below the specification limit and levels above the tolerance line were re-tested (at individual frequencies) using the appropriate detector function.

The test equipment settings for conducted emissions measurements were as follows:

Receiver Function	Initial Scan	Final Measurements
Detector Type:	Peak	Quasi-Peak (CISPR)/Average
Mode:	Max Hold	Not applicable
Bandwidth:	10 kHz	9 kHz
Amplitude Range:	60 dB	20 dB
Measurement Time:	Not applicable	>1 s
Observation Time:	Not applicable	>15 s
Step Size:	Continuous sweep	Not applicable
Sweep Time:	Coupled	Not applicable

9.7. Transmitter Radiated Emissions

Radiated emission measurements were performed in accordance with the standard, against appropriate limits for each detector function.

Initial pre-scans covering the entire measurement band from the lowest generated frequency declared up to 10 times the highest fundamental frequency. The scans were performed within a screened chamber in order to identify frequencies on which the EUT was generating spurious. This procedure identified the frequencies from the EUT, which required further examination. Repetitive scans were performed to allow for emissions with low repetition rates, and for the duty cycle of the EUT.

The initial scans were performed using an antenna height of 1.5 m and a measurement distance of 3 m. A limit line was set to the specification limit by characterising the screen room using a known signal source set at exactly the same location as the EUT. The signal source was derived from either a horn antenna or a dipole dependant on the frequency band under investigation. Any levels within 20 dB of this limit were measured where possible, on occasion; the receiver noise floor came within the 20 dB boundary. On these occasions, the system noise floor may have been recorded.

An open area test site using the appropriate test distance and measuring receiver with a peak detector was used for final measurements at each frequency recorded in the screen room.

The levels were maximised by initially rotating the turntable through 360° and then varying the antenna height between 1 m and 4 m in the vertical polarisation. At this point, any signals found to be between the limit and a level 6 dB below it were further maximised by changing the configuration of the EUT, e.g. re-routing cables to peripherals and moving peripherals with respect to the EUT. The procedure was repeated for the horizontal polarisation.

Once the final amplitude (maximised) had been obtained, the EUT was substituted with a substitution antenna. For EIRP measurements a Horn antenna whose gain was based on an isotropic antenna was used, ERP measurements were done using a dipole. The centre of the substitution antenna was set to approximately the same centre location as the EUT. The substitution antenna was set to the horizontal polarity. The substitution antenna was matched into a signal generator using a 6 dB or greater attenuator. The signal generator was tuned to the EUT's frequency under test.

The test antenna was then raised and lowered to obtain a maximum reading on the spectrum analyser. The level of the signal generator output was then adjusted until the maximum recorded EUT level was observed. The signal generator level was noted. This procedure was repeated with both test antenna and substitution antenna vertically polarised. The EIRP was calculated as:-

EIRP = Signal Generator Level - Cable Loss + Antenna Gain

The limit in the standard states that emissions shall be attenuated by at least 43+10 log (P) dB below the transmitter power (P), where (P) is the maximum measured fundamental power for the channel under test. This limit always reduces to -13 dBm therefore, the limit line presented on the accompanying plots is set to -13 dBm.

Any spurious measured were then compared to the -13 dBm limit. The requirement is for the emission to be less than -13 dBm. The margin between emission and limit is recorded and should always be positive to indicate compliance.

All measurements were performed using broadband horn antennas.

Transmitter Radiated Emissions (Continued)

It should be noted that FCC Part 24.238 states that the 1st MHz band immediately adjacent to the applicants declared frequency block may be measured using a resolution bandwidth of at least 1% of the emission bandwidth. This bandwidth was found by calculating 1% of the bandwidth measured in the transmitter occupied bandwidth section of this report. The next largest available bandwidth above this calculated figure was, therefore, used i.e. 3 kHz.

The measurements in the 2nd and 3rd 1 MHz blocks away from the adjacent 1 MHz block from 1911 MHz to 1912 MHz and 1912 MHz to 1913 MHz were carried out using an analyser span of 1 MHz and a 100 kHz receiver resolution bandwidth (RBW). 10 linear readings were taken for each 100 kHz strip across the 1 MHz band. These readings were integrated to give the emission level in an equivalent 1 MHz bandwidth.

9.8. Receiver Radiated Emissions

Radiated emission measurements were performed in accordance with the standard, against appropriate limits for each detector function.

Initial pre-scans covering the entire measurement band from the lowest generated frequency declared up to the upper frequency detailed in Section 15.33(b) were performed within a screened chamber in order to identify frequencies on which the EUT was generating interference. This determined the frequencies from the EUT, which required further examination. In order to minimise the time taken for the swept measurements, a peak detector was used in conjunction with the appropriate detector measuring bandwidth (see table below). Repetitive scans were performed to allow for emissions with low repetition rates, and for the duty cycle of the EUT.

The initial scans were performed using an antenna height of 1.5 m and a measurement distance of 3 m. A limit line was set to the specification limit. Levels within 20 dB of this limit were measured where possible on occasion the receiver noise floor came within the 20 dB boundary. On these occasions, the system noise floor may have been recorded.

An open area test site using the appropriate test distance and measuring receiver with a quasi peak detector was used for measurements below 1000 MHz, for measurements above 1000 MHz average and peak detectors were used.

For the final measurements the EUT was arranged on a non-conducting turn table on a standard test site compliant with ANSI C63.4 – 2003 Clause 5.4.

On the open area test site, at each frequency where a signal was found, the levels were maximised by initially rotating the turntable through 360° and then varying the antenna height between 1 m and 4 m in the horizontal polarisation. At this point, any signals found to be between the limit and a level 6 dB below it were further maximised by changing the configuration of the EUT, e.g. re-routing cables to peripherals and moving peripherals with respect to the EUT. The procedure was repeated for the vertical polarisation.

The final field strength was determined as the indicated level in dBμV plus cable loss and antenna factor.

The test equipment settings for radiated emissions measurements were as follows:

Receiver Function	Initial Scan	Final Measurements <1 GHz	Final Measurements ≥1 GHz
Detector Type:	Peak	Quasi-Peak (CISPR)	Peak/Average
Mode:	Max Hold	Not applicable	Not applicable
Bandwidth:	(120 kHz <1 GHz) (1 MHz ≥1 GHz)	120 kHz	1 MHz (If Applicable)
Amplitude Range:	60 dB	20 dB	20 dB (typical)
Step Size:	Continuous sweep	Not applicable	Not applicable
Sweep Time:	Coupled	Not applicable	Not applicable

Appendix 1. Test Equipment Used

Description	Manufacturer	Model	Serial No.	Asset No.
Site 9	RFI	9	None	S209
GSM Test set	Hewlett Packard	8922H	3503U00372	M1013
DCS Test set	Hewlett Packard	83220E	3741U02702	M1014
Cable	Suhner	N/A	AA	C1139
Cable	Suhner	N/A	BB	C1138
ESD Simulator	Keytek	ESD2000	8910243	G010
40W Power Amplifier	GRF Inc	GRF5022	1790	G077
Site 5	RFI	5	None	S205
GSM Audio Rack	N/A	N/A	N/A	M1236
Audio Analyser	Bruel & Kjaer	2636	1648574	M279
8903B	HP	8903B	2742A03355	M1224
8903B	Hewlett Packard	8903B	3011A09002	M1187
HP8922M	HP	HP8922M	4012U04442	M1225
Cable	Unknown	Not stated	Not stated	C228
SMH Signal Generator	Rohde & Schwarz	SMH	863 771/023	G017
Fibre Optic RS232	VolAmp Ltd	LSS-08/SM	25238	A670
Schaffner	Schaffner	CPW 9670	20566	M1164

Test Equipment Used (Continued)

Description	Manufacturer	Model	Serial No.	Asset No.
Sound Pressure Level Calibrator	Bruel & Kjaer	4231	1780925	G049
Speaker Amplifier	1	1	12345	A1294
RS	RS	1	813-991	A1295
Sound Level Meter	Bruel & Kjaer	2231	1680164	M129
AS0822-055R	Milmega	Milmega AS0822-55R	991946	G0549
Charter Engineering	Charter Engineering	None	None	A1481
100 W Amplifier	Amplifier Research	100W1000M1A	17225	G044
Cable	Rosenberger	UFA 210A-1-0788-50x50	96A0119	C324
C571-N-N-2	Rosenberger	UFA210A-1-788-50x50	97E0934	C571
Cable	RFI	None	None	C077
Rosenberger	Rosenberger	001	001	C1045
Bi-directional Coupler	Narda	3020A	37106	A526
Cable	Rosenberger	UFA210A-1-1181-70x70	2994	C349
20 dB Attenuator	Narda	766-20	167	A296

Test Equipment Used (Continued)

Description	Manufacturer	Model	Serial No.	Asset No.
20 dB Attenuator	Narda	766-20	163	A297
Reynolds	Reynolds	269-0078-2000	None	C1100
Thermometer/Barometer/Hygrometer	Oregon Scientific	BA 116	None	M243
Receiver / Spectrum Analyser System	Rohde & Schwarz	ESBI	DU:835862/018 RU:835387/006	M088
Cable	Rosenberger	UFA 210A-1-0788-50x50	96A0121	C323
Bilog Antenna	Chase	CBL6111A	1589	A288
Cable	Suhner	SUCOFLEX 104A	37016 14A	C1140

NB In accordance with UKAS requirements, all the measurement equipment is on a calibration schedule.

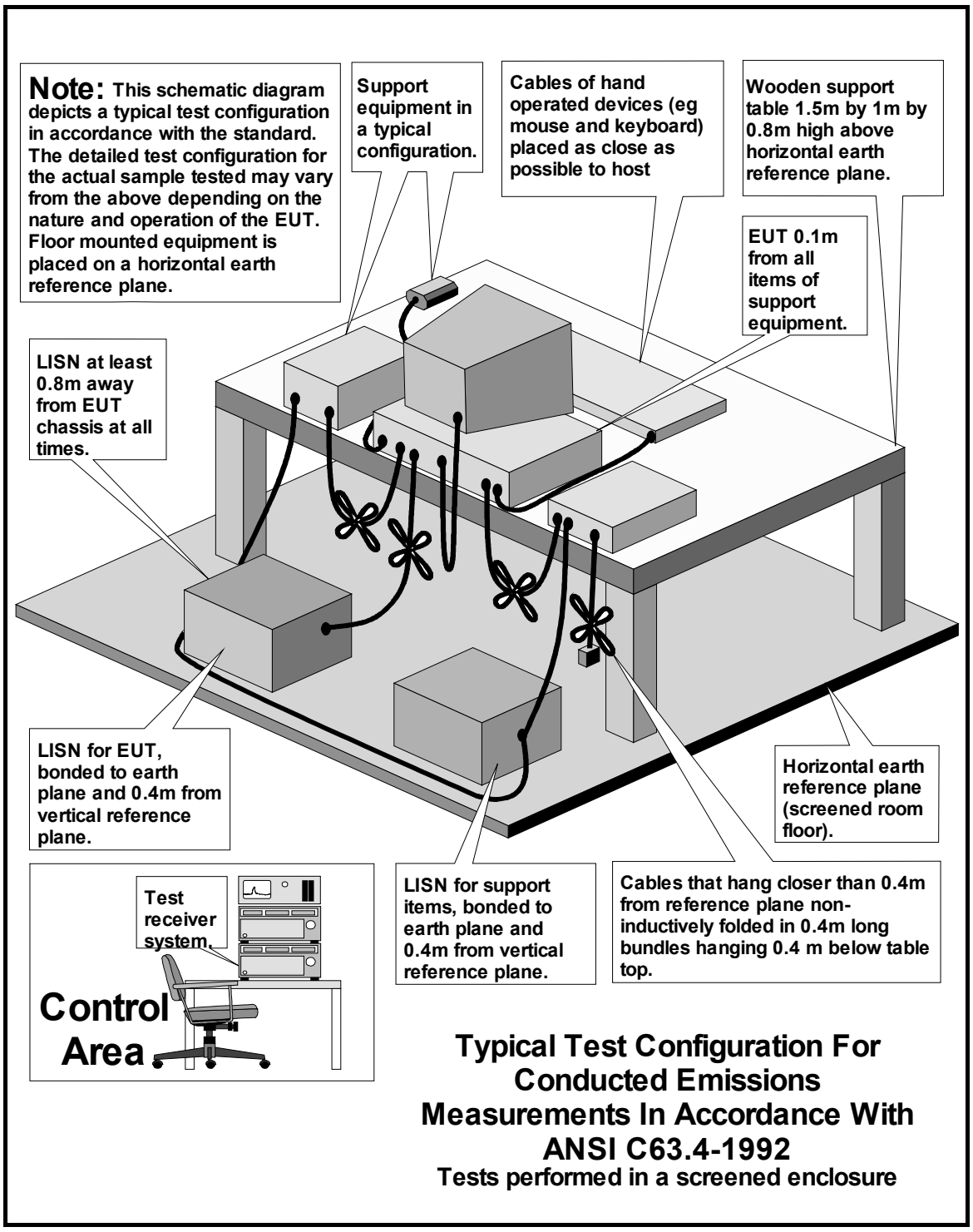
Appendix 2. Test Configuration Drawings

This appendix contains the following drawings:

Drawing Reference Number	Title
DRG\71222JD02\EMICON	Test configuration for measurement of conducted emissions.
DRG\71222JD02\EMIRAD	Test configuration for measurement of radiated emissions.

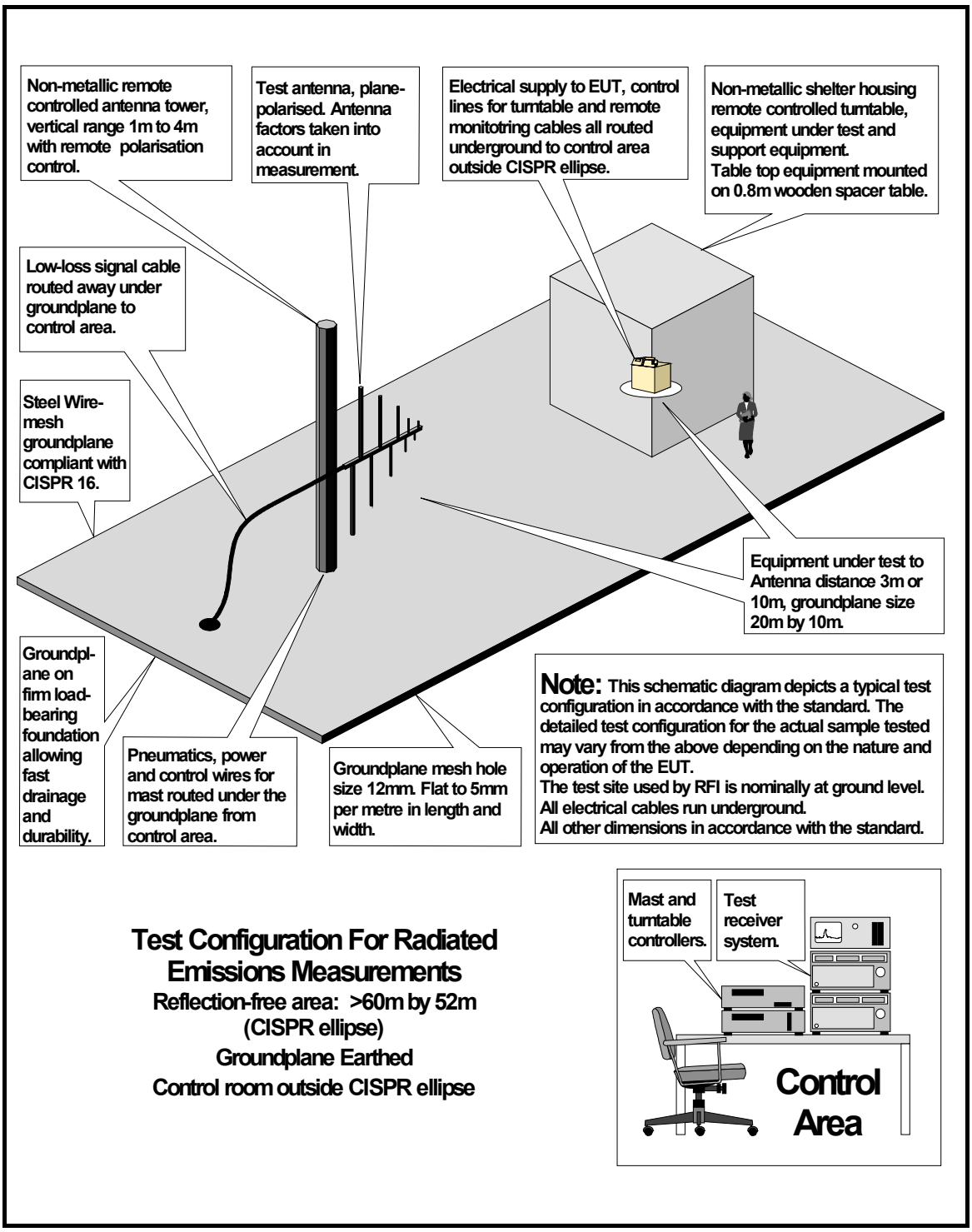
Test of: Siemens AG
Wolf 5.
To: FCC Part 24: 2004 (Subpart E)

DRG\71222JD02\EMICON



Test of: Siemens AG
Wolf 5.
To: FCC Part 24: 2004 (Subpart E)

DRG\71222JD02\EMIRAD



Test Configuration For Radiated Emissions Measurements
Reflection-free area: >60m by 52m (CISPR ellipse)
Groundplane Earthed
Control room outside CISPR ellipse

This page has been left intentionally blank.