




TEST REPORT FROM RADIO FREQUENCY INVESTIGATION LTD.

Test Of: Nokia Corporation..
Nokia 7250 PCS Mobile Phone with
FM Radio

To: FCC Part 24: 2001

Test Report Serial No:
RFI/MPTB1/RP44021JD01A

This Test Report Is Issued Under The Authority Of Richard Jacklin, Operations Director: 	Checked By: 
Tested By: 	Release Version No: PDF01
Issue Date: 15 January 2003	Test Dates: 21 November 2002 to 03 December 2002

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Conformance Testing Department

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1. Client Information

Company Name:	Nokia Corp. / TCC Salo
Address:	P.O. Box 86, FIN-24101 Salo Finland
Contact Name:	Jarkko Luoma / Hannu Söderholm

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2. Equipment Under Test (EUT)

The following information has been supplied by the client:

2.1. Identification Of Equipment Under Test (EUT)

EMC Sample

Brand Name:	Nokia
Model Name or Number:	7250
Unique Type Identification:	NHL-4J
IMEI Number:	*004400/12/166777/6
Country of Manufacture:	Not stated by client
Date of Receipt:	21 November 2002

*Used for Conducted testing only

Brand Name:	Nokia
Model Name or Number:	7250
Unique Type Identification:	NHL-4J
IMEI Number:	*004400/12/166790/9
Country of Manufacture:	Not stated by client
Date of Receipt:	21 November 2002

*Used for Radiated Testing only

Description:	Charger
Brand Name:	Nokia
Model Name or Number:	ACP-12U
Serial Number:	394349J113220011941
Cable Length And Type:	1.7 m Twin Core
Connected to Port:	Charging Port

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Identification Of Equipment Under Test (EUT) (Continued)

Description:	Battery
Brand Name:	Nokia
Model Name or Number:	BLD-3
Serial Number:	067033463807216362
Cable Length And Type:	Not Applicable
Connected to Port:	Battery Terminals

Description:	Headset
Brand Name:	Nokia
Model Name or Number:	HDB-4
Serial Number:	Not stated by client
Cable Length And Type:	1 m Audio Cable
Connected to Port:	Headset Port

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2.2. Description Of EUT

The equipment under test is a PCS mobile phone with integral FM tuner. Included with the device is a headset, rechargeable battery and charger unit.

2.3. Modifications Incorporated In EUT

The EUT has not been modified from what is described by the Model Number and Unique Type Identification stated above.

2.4. Additional Information Related To Testing

Power Supply Requirement: (non-removable lithium ion battery)	Internal battery supply of 3.7 V
Power Supply Requirement: (AC Battery Charger)	Nominal 115 V 60 Hz AC Mains supply
Intended Operating Environment:	Within GSM Network Coverage
Equipment Category:	Portable
Type of Unit:	Mobile handset
Weight:	87.5 g
Dimensions:	105 x 43 x 19 mm
Interface Ports:	Charging Connector Edge Connector for Accessories
Transmit Frequency	1850 to 1910 MHz
Receive Frequency	1930 to 1990 MHz
Maximum Power Output (EIRP)	32.94 dBm

2.5. Support Equipment

No support equipment was supplied by the applicant and used to exercise the EUT during testing:

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3. Test Specification, Methods And Procedures

3.1. Test Specification

Reference:	FCC Part 24 2001: Subpart E Sections 24.232, 24.235, 24.238
Title:	Code of Federal Regulations, Part 24 (47CFR) Personal Communication Services.
Comments:	None.
Purpose of Test:	To determine whether the equipment complied with the requirements of the specification for the purposes of certification.

Reference:	FCC Part 15: 2001 Class B, Sections: 15.107 and 15.109
Title:	Code of Federal Regulations, Part 15 (47CFR) Radio Frequency Devices: Digital Devices.
Comments:	A description of the test facility used for this test is on file with, and has been accepted by, the Federal Communications Commission as required by Section 2.948 of Federal Rules.
Purpose of Test:	To determine whether the equipment complied with the requirements of the specification for the purposes of certification.

Reference:	FCC Part 2: 2001 Sections 2.1046 2.1049 2.1051 2.1055
Title:	Code of Federal Regulations, Part 2 (47CFR) Frequency allocations and radio treaty matters; General Rules and Regulations
Comments:	None.
Purpose of Test:	To determine whether the equipment complied with the requirements of the specification for the purposes of certification.

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3.2. Methods And Procedures

The methods and procedures used were as detailed in:

ANSI/TIA-603-B-2002

Land Mobile Communications Equipment, Measurements and performance Standards.

ANSI C63.2 (1996)

Title: American National Standard for Instrumentation - Electromagnetic noise and field strength.

ANSI C63.4 (2001)

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 (1998)

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.

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4. Deviations From The Test Specification

None

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5. Operation Of The EUT During Testing

5.1. Operating Conditions

The EUT was tested in a normal laboratory environment.

During testing, the EUT was powered by nominal 115 V 60 Hz AC mains supply

The EUT was exercised via a HP 8922M GSM test set.

5.2. Operating Modes

The EUT was tested in the following operating modes:

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 -30 through +50 deg.C in 10 degree increments.

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

These modes were deemed the worse case configurations.

Receiver Modes:

Idle/Standby Mode with FM radio operating.

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

- This mode was tested in its worse case configuration.

5.3. Configuration and Peripherals

The EUT was tested in the following configuration:

All tests were performed with the EUT connected via an air link or directly to a HP GSM 83220E test set.

The EUT was configured with its supplied AC Charger and Headset.

NB Section 2 of this report contains a full list of support equipment used and Appendix 3 contains a schematic diagram of the test configuration.

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6. Summary Of Test Results

Call Mode

Range Of Measurements	Specification Reference	Mode of Operation	Port Type	Compliance Status
Carrier Output Power	Part 2 of CFR 47: 2001, Section 2.1046(a)	Transmit	Antenna	Complied
Carrier Output Power (EIRP)	Part 24 of CFR 47: 2001, Section 24.232	Transmit	Antenna	Complied
Frequency Stability (Temperature Variation)	Part 24 of CFR 47: 2001, Section 24.235	Transmit	Antenna Terminals	Complied
Frequency Stability (Voltage Variation)	Part 24 of CFR 47: 2001, Section 24.235	Transmit	Antenna Terminals	Complied
Occupied Bandwidth	Part 24 of CFR 47: 2001, Section 24.238	Transmit	Antenna Terminals	Complied
Conducted Emissions at Band Edges	Part 24 of CFR 47: 2001, Section 24.238	Transmit	Antenna Terminals	Complied
Conducted Emissions (Outside Authorised Frequency Block)	Part 24 of CFR 47: 2001, Section 24.238	Transmit	Antenna Terminals	Complied
Conducted Emissions (Antenna Terminals)	Part 24 of CFR 47: 2001, Section 24.238	Transmit	Antenna Terminals	Complied
Electric Field Strength, Spurious Emissions (30 MHz to 26.0 GHz)	Part 24 of CFR 47: 2001, Section 24.238	Transmit	Antenna	Complied
Radiated Emissions at Band Edges	Part 2 of CFR 47: 2001, Section 2.1053	Transmit	Antenna	Complied

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Summary Of Test Results (Continued)**Receive/Idle Mode**

Range Of Measurements	Specification Reference	Mode of Operation	Port Type	Compliance Status
Conducted Spurious Emissions (150 kHz to 30 MHz)	Part 15 of CFR 47: 2001, Section 15.107	Receive/ Idle	AC Mains Input	Complied
Electric Field Strength, Spurious Emissions (30 MHz to 10000 MHz)	Part 15 of CFR 47: 2001, Section 15.109	Receive/ Idle	Enclosure	Complied

6.1. Location Of Tests

All the measurements described in this report were performed at the premises of Radio Frequency Investigation Ltd, Ewhurst Park, Ramsdell, Basingstoke, Hampshire, RG26 5RQ, England.

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7. Measurements, Examinations And Derived Results

7.1. General Comments

7.1.1. This section contains test results only. Details of the test methods and procedures can be found in Appendix 3 of this report.

7.1.2. 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.

7.1.3. The term "Call Mode" is used to signify Transmitter active and in normal mode of operation.

7.1.4. The term "Idle Mode" is used to signify that the phone is in a Standby\Receive condition.

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7.2. Conducted RF Output Power: Call Mode: (Antenna Terminals)

7.2.1. The EUT, An RF spectrum analyser and a HP GSM 83220E test set were configured for conducted port measurements as described in appendix 2 of this report.

7.2.2. Tests were performed to identify the maximum transmit power in accordance with FCC Part 2.1046(a) for conducted power.

7.2.3. The applicant provided a temporary antenna port to allow a direct connection to be made for conducted power measurements.

7.2.4. Results are shown for the EUT set to Bottom, Middle and Top channels using a fully charged battery. The battery nominally charged voltage is declared at 3.7 Volts:

7.2.5. There is no limit specified in FCC Part 24 for this test, it has been recorded as a requirement of FCC 2.1046. The Levels obtained are also used in conjunction with spurious attenuation measurements where the limits are based on the conducted carrier power (P).

Results:

Channel	Frequency (MHz)	Maximum RF Output Power (dBm)
Bottom (512)	1850.200	29.2
Middle (660)	1879.816	29.2
Top (810)	1909.805	28.9

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7.3. Carrier Output Power: Call Mode: (EIRP)

7.3.1. The EUT, An RF spectrum analyser and a HP GSM 83220E test set were configured for radiated measurements as described in appendix 2 of this report.

7.3.2. Tests were performed to identify the maximum Effective Isotropic Radiated Power (EIRP) in accordance with FCC Part 24.232.

Results EIRP.

Channel	Frequency (MHz)	Antenna Polarity (H/V)	Maximum Transmitter EIRP (dBm)	Limit EIRP (dBm)	Margin	Result
Bottom (512)	1850.14	Horiz.	32.48	33.0	0.52	Complied
Middle (660)	1879.76	Horiz.	32.94	33.0	0.06	Complied
Top (810)	1909.85	Horiz.	30.80	33.0	2.20	Complied

Note: The highest EIRP was found with the AC charger disconnected. As such, all results were taken with the charger disconnected.

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7.4. Frequency Stability Measurements : (Temperature Variation)

7.4.1. The EUT and HP GSM test set were configured for conducted antenna port measurements and as described in annex s of this report for frequency tolerance.

7.4.2. Measurements were performed to determine the frequency stability of the fundamental emission from the EUT, when subjected to variation of ambient temperature.

7.4.3. The ambient temperature was varied from -30°C to +50°C in 10°C steps. During the test the fundamental frequency of the EUT shall stay within the authorised frequency block.

7.4.4. The client has stated that the authorised frequency block is:-

Lower Block Edge	1850 MHz
Upper Block Edge	1910 MHz

The limit is stated as the frequency stability that is sufficient to ensure that the fundamental emission stays within the authorised frequency block.

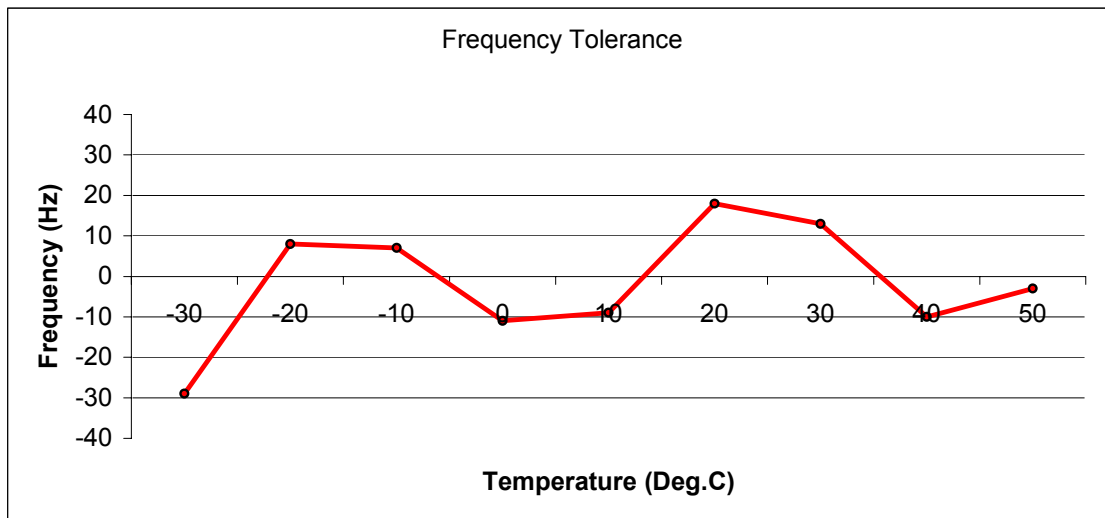
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Frequency Stability Measurements : (Continued)**Results Bottom Channel (1850.2 MHz)**

Temp (Deg C)	Frequency Error (Hz)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Margin (MHz)	Result
-30	-29	1850.199971	1850	0.199971	Complied
-20	8	1850.200008	1850	0.200008	Complied
-10	7	1850.200007	1850	0.200007	Complied
0	-11	1850.199989	1850	0.199989	Complied
10	-9	1850.199991	1850	0.199991	Complied
20	18	1850.200018	1850	0.200018	Complied
30	13	1850.200013	1850	0.200013	Complied
40	-10	1850.199990	1850	0.199990	Complied
50	-3	1850.199997	1850	0.199997	Complied

Frequency Variation From 1850.2MHz

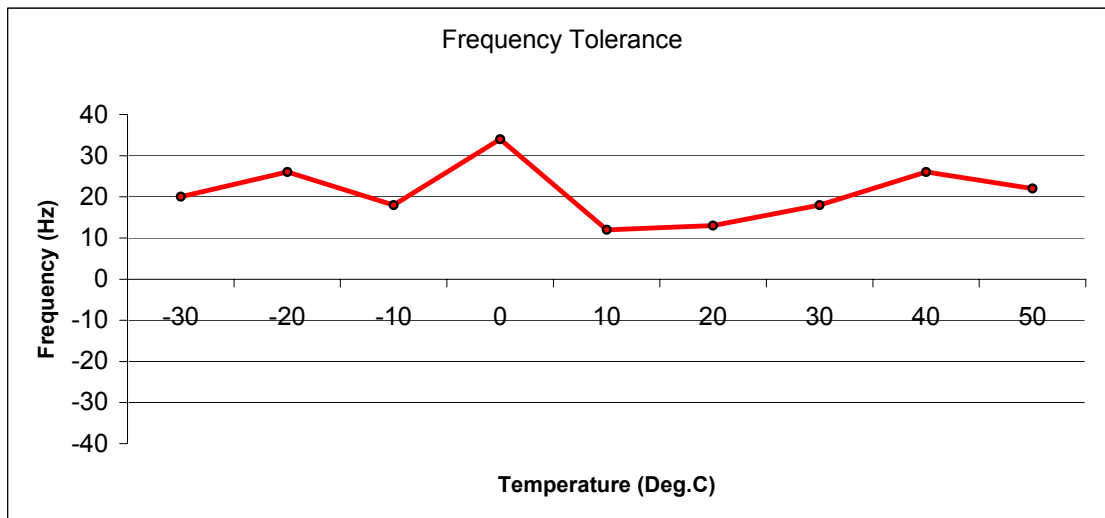
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Frequency Stability Measurements: (continued)**Results Top Channel (1909.8 MHz)**

Temp (Deg C)	Frequency Error (Hz)	Measured Frequency (MHz)	Upper Band Edge Limit (MHz)	Margin (MHz)	Result
-30	20	1909.800020	1910	0.199980	Complied
-20	26	1909.800026	1910	0.199974	Complied
-10	18	1909.800018	1910	0.199982	Complied
0	34	1909.800034	1910	0.199966	Complied
10	12	1909.800012	1910	0.199988	Complied
20	13	1909.800013	1910	0.199987	Complied
30	18	1909.800018	1910	0.199982	Complied
40	26	1909.800026	1910	0.199974	Complied
50	22	1909.800022	1910	0.199978	Complied

Variation From 1909.8MHz

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7.5. Frequency Stability Measurements: (Voltage Variation)

7.5.1. The EUT and HP GSM test set were configured for conducted antenna port measurements and as described within annex 2 of this report for frequency tolerance.

7.5.2. Measurements were performed to determine the frequency stability of the fundamental emission from the EUT, when subjected to variation of supply voltage.

7.5.3. The supply voltage was varied during the test and the fundamental frequency of the EUT noted. The limit requests that the fundamental frequency stay's within the authorised frequency block.

7.5.4. The client has stated that the authorised frequency block is:-

Lower Block Edge	1850 MHz
Upper Block Edge	1910 MHz

Results Bottom Channel (1850.2 MHz)

Voltage (V)	Frequency Error (Hz)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Margin (MHz)	Result
4.2	22	1850.200022	1850	0.200022	Complied
3.45	19	1850.200019	1850	0.200019	Complied

Results Top Channel (1909.8 MHz)

Voltage (V)	Frequency Error (Hz)	Measured Frequency (MHz)	Lower Band Edge Limit (MHz)	Margin (MHz)	Result
4.2	24	1909.800024	1910	0.199976	Complied
3.45	16	1909.800016	1910	0.199984	Complied

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7.6. Transmitter Conducted Measurements: Call Mode: (Occupied Bandwidth)

7.6.1. The EUT, HP GSM test and spectrum analyser were configured for conducted antenna port measurements and as per annex 2 of this report.

7.6.2. The applicant to allow for conducted measurements provided a temporary antenna port.

7.6.3. Measurements were performed to determine the Occupied Bandwidth of the fundamental emission from the EUT at the bottom middle and top channels.

7.6.4. The Occupied Bandwidth was measured using the built in occupied bandwidth function of the Rohde and Schwarz FSEB 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 FSEB user manual for this measurement, i.e. RBW $\leq 1/20$ of occupied bandwidth.

Results:

Channel	Frequency (MHz)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	Occupied Bandwidth (kHz)
Bottom (512)	1850.2	3.0	10.0	211.6
Middle (660)	1879.8	3.0	10.0	206.1
Top (810)	1909.8	3.0	10.0	213.8

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7.7. Transmitter Conducted Measurements: Call Mode: (Emissions at Band Edges)

7.7.1. The EUT and spectrum analyser was configured as for conducted antenna port measurements.

7.7.2. The applicant to allow for conducted measurements provided a temporary antenna port.

7.7.3. FCC Part 24.238 states that emissions shall be attenuated by at least $43+10 \log(P)$ dB below the transmitter power (P), where (P) is the power measured at the EUT antenna terminals.

7.7.4. FCC Part 24.238 also 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.

7.7.5. The highest level within these 1 MHz bands was thus measured and recorded in the tables below.

7.7.6. The spurious attenuation level in dB is described in TIA_EIA_603A and is defined as: -

$$\text{dB} = 10 \log_{10} \left(\frac{\text{TX power in watts}}{0.001} \right) - \text{spurious level (dBm)}$$

7.7.7. As this test is conducted, the conducted TX power was used from section 2 of this report to calculate the attenuation limits and levels.

Results:**Bottom Band Edge**

Frequency (MHz)	Peak Emission Level (dBm)	Spurious Attenuation (dBc)	Limit (dBc)	Margin (dB)	Result
1849.907	-16.36	45.56	42.2	3.36	Complied

Top Band Edge

Frequency (MHz)	Peak Emission Level (dBm)	Spurious Attenuation (dBc)	Limit (dBc)	Margin (dB)	Result
1910.012	-16.13	45.03	41.9	3.13	Complied

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7.8. Transmitter Conducted Measurements: Call Mode: (Emissions Outside of Authorised Frequency Block)

7.8.1. The EUT and spectrum analyser was configured as for conducted antenna port measurements.

7.8.2. The applicant to allow for conducted measurements provided a temporary antenna port.

7.8.3. FCC Part 24.238 states that emissions shall be attenuated by at least $43+10 \log(P)$ dB below the transmitter power (P).

7.8.4. The spurious attenuation level is defined as: -

$$\text{dB} = 10 \log_{10} \left(\frac{\text{TX power in watts}}{0.001} \right) - \text{spurious level (dBm)}$$

Result: Bottom Channel

Frequency (MHz)	Peak Emission Level (dBm)	Spurious Attenuation (dBc)	Limit (dBc)	Margin (dB)	Result
3700.275	41.83	71.03	42.2	28.83	Complied
5550.333	37.30	66.50	42.2	24.30	Complied

Result: Middle Channel

Frequency (MHz)	Peak Emission Level (dBm)	Spurious Attenuation (dBc)	Limit (dBc)	Margin (dB)	Result
3759.717	39.00	68.20	42.2	26.00	Complied
5639.358	42.80	72.00	42.2	29.80	Complied

Result: Top Channel

Frequency (MHz)	Peak Emission Level (dBm)	Spurious Attenuation (dBc)	Limit (dBc)	Margin (dB)	Result
3819.742	37.00	65.90	41.9	24.00	Complied
5729.475	40.83	69.73	41.9	27.83	Complied

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7.9. Radiated Emissions: Call Mode**7.9.1. Electric Field Strength Measurements: 30 MHz to 26.0 GHz**

7.9.1.1. The client has stated that the highest fundamental frequency for the EUT was 1909.8 MHz. Therefore tests were performed up to 26 GHz.

7.9.1.2. Preliminary Radiated spurious scans were performed with the EUT set to the Middle channel. Any visible spurious was then measured with the device set to top, bottom and middle channels.

7.9.1.3. The following table lists frequencies at which emissions were measured using a Quasi-Peak detector at a test distance of 3m (results incorporate antenna factors and cable losses):

7.9.1.4. The limit is specified as $43 + 10 \log (P)$ dB below the transmitter power (P), where (P) is the power measured at the EUT antenna terminals.

7.9.1.5. The radiated spurious emission level in dB is described in TIA_EIA_603A and is defined as: -

$$\text{dB} = 10 \log_{10} \left(\frac{\text{TX power in watts}}{0.001} \right) - \text{spurious level (dBm)}$$

7.9.1.6. The final spurious emission level is calculated as Signal Generator Level – Cable & Attenuator Loss + Substitution Antenna Gain.

Results:- Bottom Channel

Frequency (MHz)	Signal Generator Level (dBm)	Matching Attenuator & Cable Loss (dB)	Substitution Antenna Gain (dBi)	Spurious Emission (dBm)	Spurious Attenuation dBc	Spurious Attenuation Limit (dBc)	Margin (dB)	Result
3700.34	-28.5	7.8	21.13	-15.17	47.65	45.48	2.17	Complied

Results:- Middle Channel

Frequency (MHz)	Signal Generator Level (dBm)	Matching Attenuator & Cable Loss (dB)	Substitution Antenna Gain (dBi)	Spurious Emission (dBm)	Spurious Attenuation dBc	Spurious Attenuation Limit (dBc)	Margin (dB)	Result
3759.70	-40.6	7.9	21.19	-27.31	60.25	45.94	14.31	Complied

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Radiated Emissions: Call Mode (continued)**Results:- Top Channel**

Frequency (MHz)	Signal Generator Level (dBm)	Matching Attenuator & Cable Loss (dB)	Substitution Antenna Gain (dBi)	Spurious Emission (dBm)	Spurious Attenuation dBc	Spurious Attenaution Limit (dBc)	Margin (dB)	Result
3819.43	-28.0	8.0	21.25	-14.75	45.55	43.90	1.65	Complied

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7.10. Radiated Emissions: Call Mode: (Emissions at Band Edges)

7.10.1. FCC Part 24.238 states that emissions shall be attenuated by at least $43+10 \log(P)$ dB below the transmitter power (P). It also 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.

7.10.2. The highest level within these 1 MHz bands was thus measured and recorded.

7.10.3. The limit is specified as $43+10 \log(P)$ dB below the transmitter power (P), where (P) is the power measured at the EUT antenna terminals.

7.10.4. The radiated spurious emission level in dB is described in TIA_EIA_603A and is defined as: -

$$\text{dB} = 10 \log_{10} \left(\frac{\text{TX power in watts}}{0.001} \right) - \text{spurious level (dBm)}$$

Results:**Bottom Band Edge**

Frequency (MHz)	Signal Generator Level (dBm)	Matching Attenuator & Cable Loss (dB)	Substitution Antenna Gain (dBi)	Spurious Emission (dBm)	Spurious Attenuation (dBc)	Spurious Attenuation Limit (dBc)	Margin (dB)	Result
1849.984	-20.88	7.0	13.68	-14.2	46.68	45.48	1.20	Complied

Top Band Edge

Frequency (MHz)	Signal Generator Level (dBm)	Matching Attenuator & Cable Loss (dB)	Substitution Antenna Gain (dBi)	Spurious Emission (dBm)	Spurious Attenuation (dBc)	Spurious Attenuation Limit (dBc)	Margin (dB)	Result
1910.007	-21.02	7.0	14.00	-14.02	44.82	43.80	1.02	Complied

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7.11. AC Mains Conducted Emissions: Receive/Idle Mode**7.11.1. Quasi-Peak Detector Measurements On Live And Neutral Lines**

7.11.1.1. Plots of the initial scans can be found in Appendix 4.

7.11.1.2. The following table lists frequencies at which emissions were measured using a Quasi-Peak detector:

Frequency (MHz)	Line	Q-P Level (dB μ V)	Q-P Limit (dB μ V)	Margin (dB)	Result
0.18079	Live	31.42	64.45	33.03	Complied
0.25888	Live	28.27	61.47	33.20	Complied
0.32727	Live	28.02	59.52	31.50	Complied
0.41254	Live	26.95	57.60	30.65	Complied
1.01945	Live	25.38	56.00	30.62	Complied
1.62838	Neutral	25.25	56.00	30.75	Complied

7.11.2. Average Detector Measurements On Live And Neutral Lines

7.11.2.1. Following the initial scans and Quasi-Peak measurements, further measurements were made at the relevant frequencies using an average detector. The measured levels were as follows:

Frequency (MHz)	Line	Av. Level (dB μ V)	Av. Limit (dB μ V)	Margin (dB)	Result
0.18079	Live	21.57	54.45	32.88	Complied
0.25888	Live	17.86	51.47	33.61	Complied
0.32727	Live	18.14	49.52	31.38	Complied
0.41254	Live	14.71	47.60	32.89	Complied
1.01945	Live	12.27	46.00	33.73	Complied
1.62838	Neutral	12.96	46.00	33.04	Complied

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7.12. Radiated Emissions: Receive/Idle Mode**7.12.1. Electric Field Strength Measurements (Frequency Range: 30 to 1000 MHz)**

7.12.1.1. The following table indicates measured results with the EUT operating in receive mode to the limits specified in Part 15.109 (Class B)

7.12.1.2. The following table lists frequencies at which emissions were measured using a Quasi-Peak detector at a test distance of 3m (results incorporate antenna factors and cable losses):

Results:

Frequency (MHz)	Ant. Pol.	Q-P Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
45.472	Vert.	28.8	40.0	11.2	Complied

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7.13. Radiated Emissions: Receive/Idle Mode**7.13.1. Electric Field Strength Measurements (Frequency Range: 1000 MHz to 26.0 MHz)**

7.13.1.1. The following table indicates measured results with the EUT operating in receive mode to the limits specified in Part 15.109 (Class B).

7.13.1.2. Plots of the initial scans can be found in Appendix 4.

7.13.1.3. The following tables list frequencies at which emissions were measured using Peak and Average detector functions:

Highest Average Level:

Frequency (GHz)	Antenna Polarity (H/V)	Average Detector level (dB μ V)	Antenna factor (dB)	Cable loss (dB)	Actual Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Average Margin (dB)	Result
4.9222	Horiz.	22.02	13.2	1.5	36.72	54.00	17.28	Complied

Highest Peak Level:

Frequency (GHz)	Antenna Polarity (H/V)	Peak Detector level (dB μ V)	Antenna factor (dB)	Cable loss (dB)	Actual Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Peak Margin (dB)	Result
4.9222	Horiz.	33.61	13.2	1.5	48.31	74.00	25.69	Complied

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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
Carrier Output Power (EIRP)	Not applicable	95%	+/- 1.78 dB
Conducted Emissions (AC)	0.15 MHz to 30 MHz	95%	+/- 3.25 dB
Conducted Emissions Antenna Port	0.009 kHz to 26 GHz	95%	+/- 1.2 dB
Radiated Emissions at 3.0 metres	30 MHz to 1000 MHz	95%	+/- 5.26 dB
Radiated Emissions at 3.0 metres	1 GHz to 26 GHz	95%	+/- 1.78 dB
Frequency Stability	Not applicable	95%	+/- 20 Hz
Occupied Bandwidth	1850 to 1910 MHz	95%	+/- 0.12 %
Emissions at Band Edges	1850 to 1910 MHz	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.

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Appendix 1. Test Equipment Used

RFI No.	Instrument	Maker	Type No.	Serial No.
A019	1050 Controller	EMCO	1050	1191
A027	Horn Antenna	Eaton	9188-2	301
A028	Horn Antenna	Eaton	91888-2	304
A031	2 to 4 GHz Eaton Horn Antenna	Eaton	91889-2	557
A067	LISN	Rohde & Schwarz	ESH3-Z5	890603/002
A1059	WG22 to K-Type Coaxial Adapter	Flann Microwave	22094-KF20	2017
A1077	3020A	Narda	3020A	40140
A1141	HP 11691D	Hewlett Packard	11691D	1212A02494
A197	Site 2 Controller SC144	Unknown	SC144	150720
A239	6 dB Attenuator	Schaffner	6806-17-B	NONE
A244	20 dB Attenuator	Schaffner	6820-17-B	None
A246	30 dB Attenuator	Schaffner	6830-17-B	None
A253	WG 12 Microwave Horn	Flann Microwave	12240-20	128
A254	WG 14 Microwave Horn	Flann Microwave	14240-20	139
A255	WG 16 Microwave Horn	Flann Microwave	16240-20	519
A256	WG 18 Microwave Horn	Flann Microwave	18240-20	400
A388	20 dB attenuator (6)	Suhner	6820.17.B	None
A388	20 dB attenuator (6)	Suhner	6820.17.B	None
A427	WG 14 horn	Flann	14240-20	150
A428	WG 12 horn	Flann	12240-20	134
A429	WG 16 horn	Flann	16240-20	561
A430	WG 18 horn	Flann	18240-20	425
A436	WG 20 horn	Flann	20240-20	330
A490	Bilog Antenna	Chase	CBL6111A	1590
A512	Wave Guide Antenna	EMCO	3115	3993
A532	RHT & Barometer	RS Components	216-935	N/A
A559	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	357881052
C1003	Cable	Rosenberger	FA210A1030M 50509	001
C1068	Rosenberger	Rosenberger	001	001

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Test Equipment Used (Continued)

RFI No.	Instrument	Maker	Type No.	Serial No.
C222	Cable	Rosenberger	UFA210A-1-1181-70x70	None
C225	Cable	Rosenberger	UFA210A-1-1181-70x70	None
C321	Cable	Rosenberger	UFA 210A-1-0788-50x50	96A0122
C323	Cable	Rosenberger	UFA 210A-1-0788-50x50	96A0121
C346	Coaxial Cable	Rosenberger	UFA210A-1-1181-70x70	1932
C363	BNC Cable	Rosenberger	RG142	None
C364	BNC Cable	Rosenberger	RG142	None
C573	C573-N-N-2	Rosenberger	UFA210A-1-788-50x50	97E0936
G013	SMHU Signal Generator	Rohde & Schwarz	SMHU	894 055/003
G085	Generator	Hewlett Packard	83650L	3614A00104
M013	Spectrum Analyser	Hewlett Packard	70001A	2704A01775 (Mainframe) & 3545A03949 (Display)
M014	NKS A.C.P. Meter	Rohde & Schwarz	NKS	879 169/014
M069	ESMI Spectrum Analyser / Receiver	Rohde & Schwarz	ESMI	829 808/007 (DU) / 827 063/008 (RU)
M072	FSM Spectrum Analyser	Rohde & Schwarz	FSM	862 967/010 (RF) & 863 912/048 (Display)
M090	Receiver / Spectrum Analyser System	Rohde & Schwarz	ESBI	DU:838494/005 RU:836833/001

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Test Equipment Used (Continued)

RFI No.	Instrument	Maker	Type No.	Serial No.
M1013	GSM Test set	Hewlett Packard	8922M	3503U00372
M1014	DCS Test set	Hewlett Packard	83220E	3741U02702
M198	Thermal Power Sensor	Rohde & Schwarz	NRV-Z52	827 191/003
M199	Power Meter	Rohde & Schwarz	NRVS	827023/075
M243	Thermometer/Barometer /Hygrometer	Oregon Scientific	BA 116	None
S202	Site 2	RFI	2	None
S209	Site 9	RFI	9	None
S216	Site 16	RFI	16	None

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

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Appendix 2. Measurement Methods

A2.1 FCC Part 24.232: Effective Isotropic Radiated Power (EIRP)

A2.1.1 EIRP measurements were performed in accordance with the standard, against appropriate limits.

A2.1.2 The EIRP was measured with the EUT arranged on a non-conducting turn table on a standard test site compliant with ANSI C63.4 – 2001 Clause 5.4. The transmitter was fitted with an integral antenna, as such tests were run with the unit operating into the integral antenna.

A2.1.3 The level of the EIRP was measured using a spectrum analyser. Its amplitude was maximised by first raising and lowering the test antenna in the horizontal plane. The turntable was then rotated through 360 degrees to determine the maximum reading. The maximum reading was then recorded. This procedure was then repeated for the Vertical polarity.

A2.1.4 Once the final amplitude (maximised) had been obtained, the EIRP was measured by using a substitution method.

A2.1.5 The substitution method involved replacing the EUT with a substitution antenna. For EIRP measurements a Horn antenna whose gain was based on an isotropic antenna was used. 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 then connected to and fed by a signal generator tuned to the EUT's operating frequency. 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 previously recorded maximum level for this set of conditions was obtained. This procedure was repeated with both antennas vertically polarised. The EIRP was then taken as:-

$$\text{EIRP} = \text{Signal Generator Level} - \text{Cable Loss} + \text{Antenna Gain}$$

A2.1.6 All measurements were performed using broadband Horn antennas.

A2.1.7 The test equipment settings for EIRP measurements were as follows:

Receiver Function	Final Measurements
Detector Type:	Peak
Mode:	Not applicable
Bandwidth:	1 MHz
Amplitude Range:	20 dB
Measurement Time:	> 1 s
Observation Time:	> 15 s
Sweep Time:	Coupled

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A2.2 FCC Part 24.235: Frequency Stability

A2.2.1 The EUT was situated within an environmental test chamber and connected to test equipment via and access port.

A2.2.1 Measurements were performed with the EUT operating under extremes of temperature in 10 degree increments within the range –30 to 50 Deg C.

A2.2.1 Measurements were also performed at voltage extremes between the declared nominal supply voltage and at the declared endpoint voltage.

A2.2.1 The requirement was to determine the frequency stability of the device under specified environmental operating conditions.

A2.2.2 Measurements were made on the top, and bottom channels.

A2.2.3 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.

A2.2.4 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. Failure to do so would result in none compliance.

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A2.3 Conducted Antenna Port Measurements: FCC Part 24.238:

A2.3.1 Spurious measurements at the Antenna port were performed from the lowest declared frequency to 10 times the highest EUT fundamental frequency.

A2.3.2 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.

A2.3.3 The specified frequency band was investigated with the transmitter operating at full power on the middle channel. Any spurious noted was then measured with the transmitter set to top, bottom and middle channels.

A2.3.4 The test equipment settings for conducted antenna port measurements were as follows:

Receiver Function	Initial Scan	Final Measurements Below 1GHz	Final Measurements Above 1 GHz
Detector Type:	Peak	Quasi-Peak (CISPR)	Peak/Average
Mode:	Max Hold	Not applicable	Not applicable
Bandwidth:	100 kHz	120 kHz	1 MHz
Amplitude Range:	60 dB	20 dB	20 dB (typical)
Measurement Time:	Not applicable	> 1 s	> 1 s
Observation Time:	Not applicable	> 15 s	> 15 s
Step Size:	Continuous sweep	Not applicable	Not applicable
Sweep Time:	Coupled	Not applicable	Not applicable

* The resolution bandwidth used for measurements in the 1 MHz blocks either side of the declared operating frequency block was set to 3 kHz.

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A2.4 FCC Part 24.238: Occupied Bandwidth

A2.4.1 The EUT was connected to a spectrum analyser via its temporary antenna port.

A2.4.1 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. The EUT is a PCS phone therefore no modulation input port was available. A call was thus setup using the PCS/GSM simulator and using normal modulation. The Occupied Bandwidth was measured in this configuration.

A2.4.2 The Occupied Bandwidth was measured using the built in occupied bandwidth function of the Rohde and Schwarz FSEB 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 FSEB user manual for this measurement, i.e., RBW $\leq 1/20$ of occupied bandwidth. A value of 3kHz was used.

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A2.5 FCC Part 15: AC Mains Conducted Emissions

A2.5.1 AC mains conducted emissions measurements were performed in accordance with the standard, against appropriate limits for each detector function.

A2.5.2 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.

A2.5.3 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.

A2.5.4 During the swept measurements (and also during subsequent final measurements on single frequencies) 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.

A2.5.5 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.

A2.5.6 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

* Where measurements were made below 150 kHz a 200 Hz bandwidth was used.

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A2.6 Radiated Emissions: FCC Part 15/24

A2.6.1 Radiated emissions measurements were performed in accordance with the standard, against appropriate limits for each detector function.

A2.6.2 Initial pre-scans covering the entire measurement band from the lowest generated frequency declared up to the highest specified frequency 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 with required further attention. 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.

A2.6.3 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 20dB of this limit were measured where possible, on occasion, the receiver noise floor came within the 20dB 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.

A2.6.4 For the main (final) measurements the EUT arranged on a non-conducting turn table on a standard test site compliant with ANSI C63.4 – 2001 Clause 5.4.

A2.6.5 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.

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A2.6.6 The final field strength was determined as the indicated level in dBuV plus cable loss and antenna factor. A2.6.7 The test equipment settings for radiated emissions measurements were as follows:

Receiver Function	Initial Scan	Final Measurements Below 1GHz	Final Measurements Above 1 GHz
Detector Type:	Peak	Quasi-Peak (CISPR)	Peak/Average
Mode:	Max Hold	Not applicable	Not applicable
Bandwidth:	(120 kHz < 1GHz) (1MHz > 1GHz)	120 kHz	1 MHz (If Applicable)
Amplitude Range:	60 dB	20 dB	20 dB (typical)
Measurement Time:	Not applicable	> 1 s	> 1 s
Observation Time:	Not applicable	> 15 s	> 15 s
Step Size:	Continuous sweep	Not applicable	Not applicable
Sweep Time:	Coupled	Not applicable	Not applicable

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Appendix 3. Test Configuration Drawings

This appendix contains the following drawings:

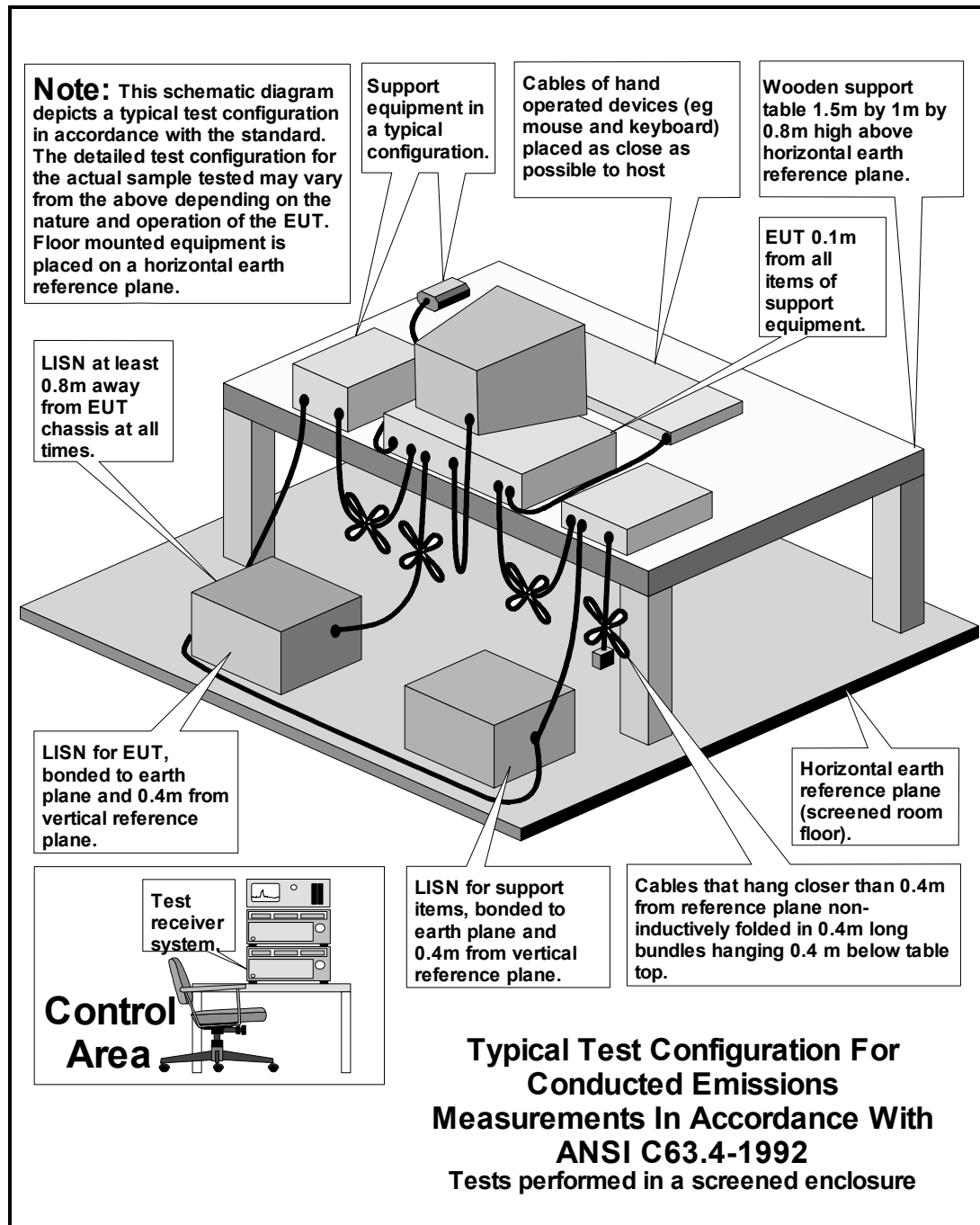
Drawing Reference Number	Title
DRG\44021JD01\EMICON	Test configuration for measurement of conducted emissions
DRG\44021JD01\EMIRAD	Test configuration for measurement of radiated emissions
DRG\44021JD01\001	Schematic diagram of the EUT, support equipment and interconnecting cables used for the test

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DRG\44021JD01\EMICON

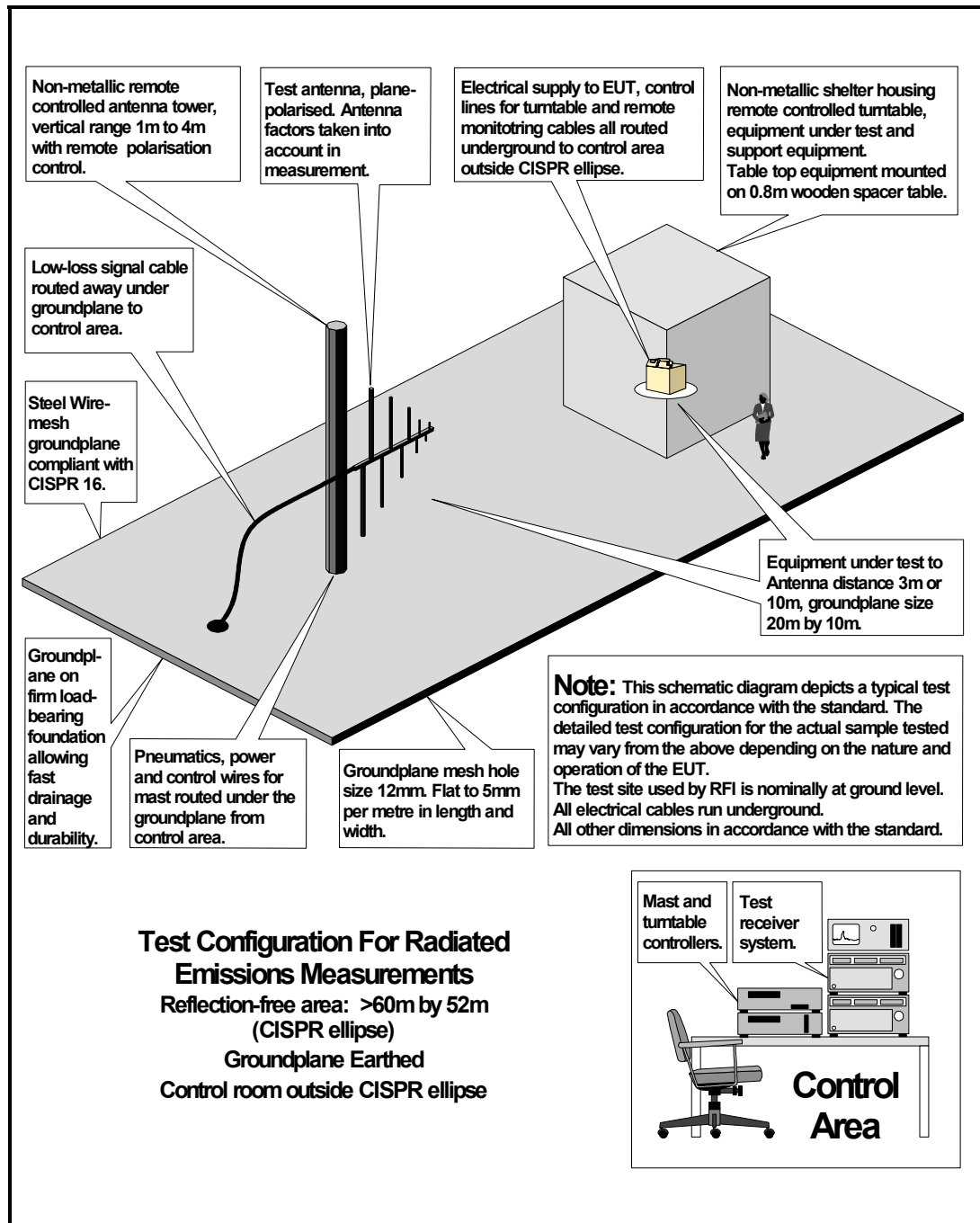


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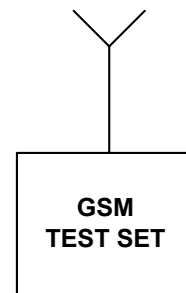
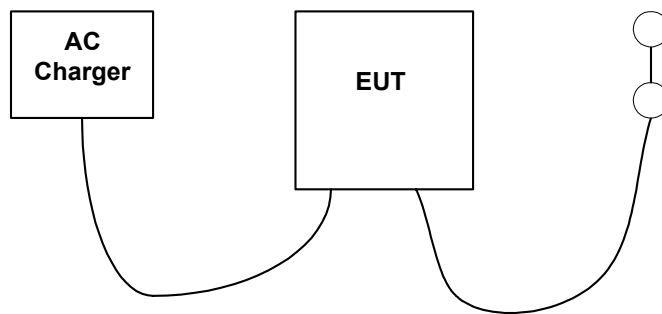
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Configuration of EUT and Local Support Equipment



Configuration of Remote Support Equipment

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Appendix 4. Graphical Test Results

This appendix contains the following graphs:

Graph Reference Number	Title
GPH\44021JD01\001	Conducted Emissions - Operating Condition :- Idle Mode 150.0 kHz to 30.0 MHz
GPH\44021JD01\002	Radiated Emissions - Operating Condition :- Idle Mode 30.0 MHz to 1.0 GHz
GPH\44021JD01\003	Radiated Emissions - Operating Condition :- Allocated Middle Channel 30.0 MHz to 1.0 GHz
GPH\44021JD01\004	Radiated Emissions - Operating Condition :- Allocated Middle Channel 1.0 GHz to 2.0 GHz
GPH\44021JD01\005	Radiated Emissions - Operating Condition :- Idle Mode 1.0 GHz to 2.0 GHz
GPH\44021JD01\006	Radiated Emissions - Operating Condition :- Idle Mode 2.0 GHz to 4.0 GHz
GPH\44021JD01\007	Radiated Emissions - Operating Condition :- Allocated Middle Channel 2.0 GHz to 4.0 GHz
GPH\44021JD01\011	Radiated Emissions - Operating Condition :- Allocated Middle Channel 18.0 GHz to 26.5 GHz
GPH\44021JD01\012	Radiated Emissions - Operating Condition :- Allocated Middle Channel 12.0 GHz to 18.0 GHz
GPH\44021JD01\013	Radiated Emissions - Operating Condition :- Allocated Middle Channel 8.0 GHz to 12.5 GHz
GPH\44021JD01\014	Radiated Emissions - Operating Condition :- Allocated Middle Channel 6.0 GHz to 8.0 GHz
GPH\44021JD01\015	Radiated Emissions - Operating Condition :- Allocated Middle Channel 4.0 GHz to 6.0 GHz
GPH\44021JD01\016	Radiated Emissions - Operating Condition :- Idle Mode 4.0 GHz to 6.0 GHz
GPH\44021JD01\017	Radiated Emissions - Operating Condition :- Idle Mode 6.0 GHz to 8.0 GHz
GPH\44021JD01\018	Radiated Emissions - Operating Condition :- Idle Mode 8.0 GHz to 12.5 GHz
GPH\44021JD01\019	Radiated Emissions - Operating Condition :- Idle Mode 12.5 GHz to 18.0 GHz
GPH\44021JD01\020	Radiated Emissions - Operating Condition :- Idle Mode 18.0 GHz to 20.0 GHz

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Graphical Test Results (continued)

Graph Reference Number	Title
GPH\44021JD01\021	Radiated Emissions - Operating Condition :- Allocated Bottom Channel (Band Edge) 1.8488 GHz to 1.8502 GHz
GPH\44021JD01\022	Radiated Emissions - Operating Condition :- Allocated Top Channel (Band Edge) 1.9098 GHz to 1.9112 GHz
GPH\44021JD01\023	Conducted Antenna Port Emissions – Operating Condition :- Allocated Bottom Channel 1.0 MHz to 1.0 GHz
GPH\44021JD01\024	Conducted Antenna Port Emissions – Operating Condition :- Allocated Middle Channel 1.0 MHz to 1.0 GHz
GPH\44021JD01\025	Conducted Antenna Port Emissions – Operating Condition :- Allocated Top Channel 1.0 MHz to 1.0 GHz
GPH\44021JD01\026	Conducted Antenna Port Emissions – Operating Condition :- Allocated Top Channel 1.0 GHz to 1.849 GHz
GPH\44021JD01\027	Conducted Antenna Port Emissions – Operating Condition :- Allocated Middle Channel 1.0 GHz to 1.849 GHz
GPH\44021JD01\028	Conducted Antenna Port Emissions – Operating Condition :- Allocated Bottom Channel 1.0 GHz to 1.849 GHz
GPH\44021JD01\029	Conducted Antenna Port Emissions – Operating Condition :- Allocated Top Channel 1.911 GHz to 2.0 GHz
GPH\44021JD01\030	Conducted Antenna Port Emissions – Operating Condition :- Allocated Middle Channel 1.911 GHz to 2.0 GHz
GPH\44021JD01\031	Conducted Antenna Port Emissions – Operating Condition :- Allocated Bottom Channel 1.911 GHz to 2.0 GHz
GPH\44021JD01\032	Conducted Antenna Port Emissions – Operating Condition :- Allocated Bottom Channel 2.0 GHz to 5.0 GHz
GPH\44021JD01\033	Conducted Antenna Port Emissions – Operating Condition :- Allocated Middle Channel 2.0 GHz to 5.0 GHz
GPH\44021JD01\034	Conducted Antenna Port Emissions – Operating Condition :- Allocated Top Channel 2.0 GHz to 5.0 GHz
GPH\44021JD01\035	Conducted Antenna Port Emissions – Operating Condition :- Allocated Bottom Channel 5.0 GHz to 10.0 GHz
GPH\44021JD01\036	Conducted Antenna Port Emissions – Operating Condition :- Allocated Middle Channel 5.0 GHz to 10.0 GHz
GPH\44021JD01\037	Conducted Antenna Port Emissions – Operating Condition :- Allocated Middle Channel 5.0 GHz to 10.0 GHz
GPH\44021JD01\038	Conducted Antenna Port Emissions – Operating Condition :- Allocated Bottom Channel 10.0 GHz to 15.0 GHz
GPH\44021JD01\039	Conducted Antenna Port Emissions – Operating Condition :- Allocated Middle Channel 10.0 GHz to 15.0 GHz

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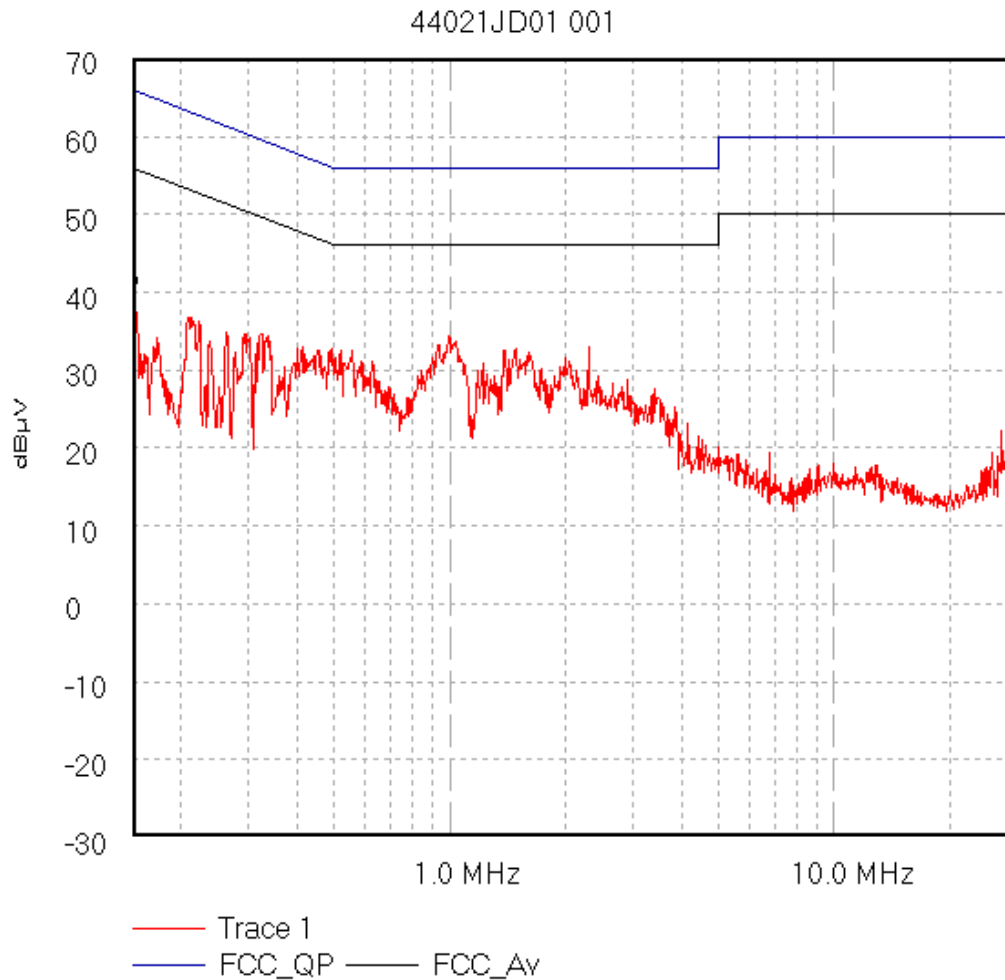
Graphical Test Results (continued)

Graph Reference Number	Title
GPH\44021JD01\040	Conducted Antenna Port Emissions – Operating Condition :- Allocated Top Channel 10.0 GHz to 15.0 GHz
GPH\44021JD01\041	Conducted Antenna Port Emissions – Operating Condition :- Allocated Top Channel 15.0 GHz to 20.0 GHz
GPH\44021JD01\042	Conducted Antenna Port Emissions – Operating Condition :- Allocated Middle Channel 15.0 GHz to 20.0 GHz
GPH\44021JD01\043	Conducted Antenna Port Emissions – Operating Condition :- Allocated Bottom Channel 15.0 GHz to 20.0 GHz
GPH\44021JD01\044	Conducted Antenna Port Emissions – Operating Condition :- Allocated Bottom Channel (Band Edge) 1.8489 GHz to 1.8501 GHz
GPH\44021JD01\045	Conducted Antenna Port Emissions – Operating Condition :- Allocated Top Channel (Band Edge) 1.9099 GHz to 1.9111 GHz
GPH\44021JD01\046	Conducted Antenna Port Emissions – Operating Condition :- Allocated Top Channel 9.0 kHz to 1.0 MHz
GPH\44021JD01\047	Conducted Antenna Port Emissions – Operating Condition :- Allocated Middle Channel 9.0 kHz to 1.0 MHz
GPH\44021JD01\048	Conducted Antenna Port Emissions – Operating Condition :- Allocated Bottom Channel 9.0 kHz to 1.0 MHz

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Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\001Conducted Emissions. FCC Part 15.IMEI:-004400/12/166790/9. Operating Condition :- Idle Mode.

Start 150.0 kHz; Stop 30.0 MHz - Log Scale

Ref 70 dB μ V; Ref Offset 0.0 dB; 10 dB/div

RBW 9.0 kHz; VBW 10.0 kHz; Att 6 dB; Swp 60.0 mS

Peak 150.0 kHz, 39.86 dB μ V

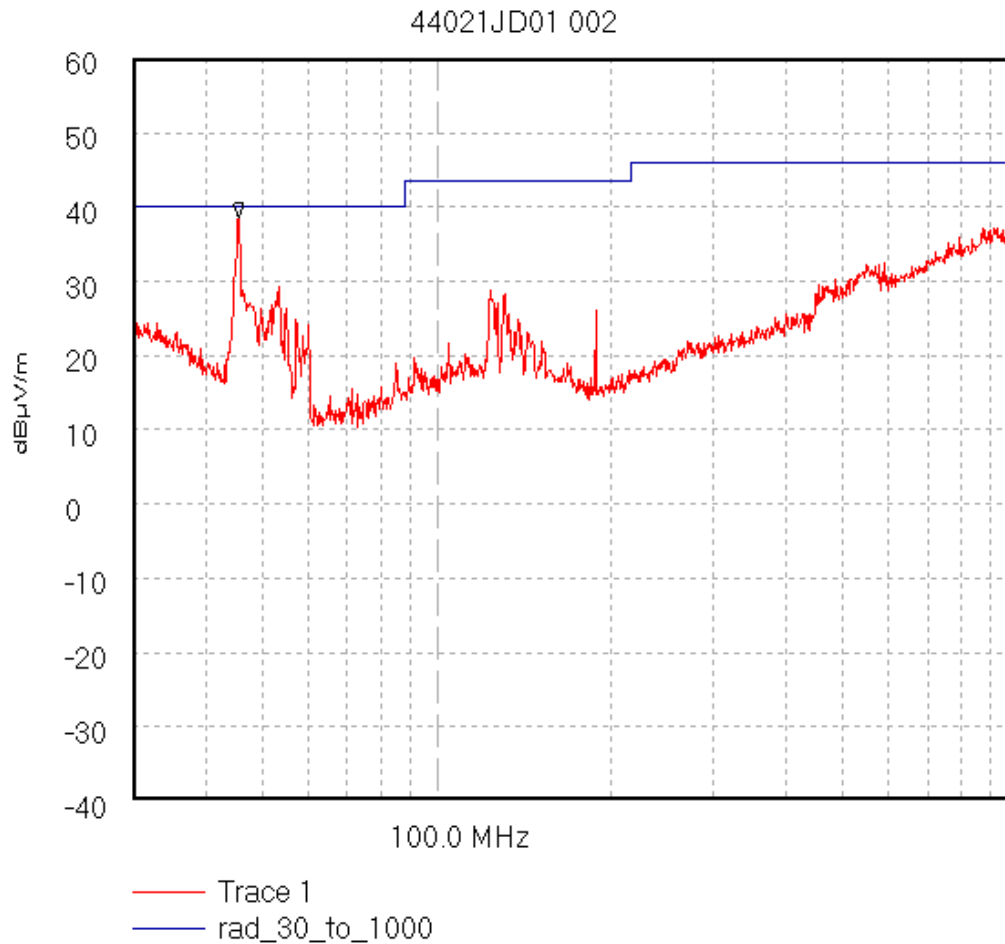
Limit/Mask: FCC_QP; FCC_Av; ; Limit Test Passed

21/11/2002 13:53:41

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\002Radiated Emissions. FCC Part 15.209. PreScan @ 3m.IMEI:-004400/12/166790/9. Operating Condition :- Idle Mode.

Start 30.0 MHz; Stop 1.0 GHz - Log Scale

Ref 60 dBµV/m; Ref Offset 0.0 dB; 10 dB/div

RBW 120.0 kHz; VBW 100.0 kHz; Att 6 dB; Swp 380.0 mS

Peak 45.517 MHz, 38.52 dBµV/m

Limit/Mask: rad_30_to_1000; ; Limit Test Passed

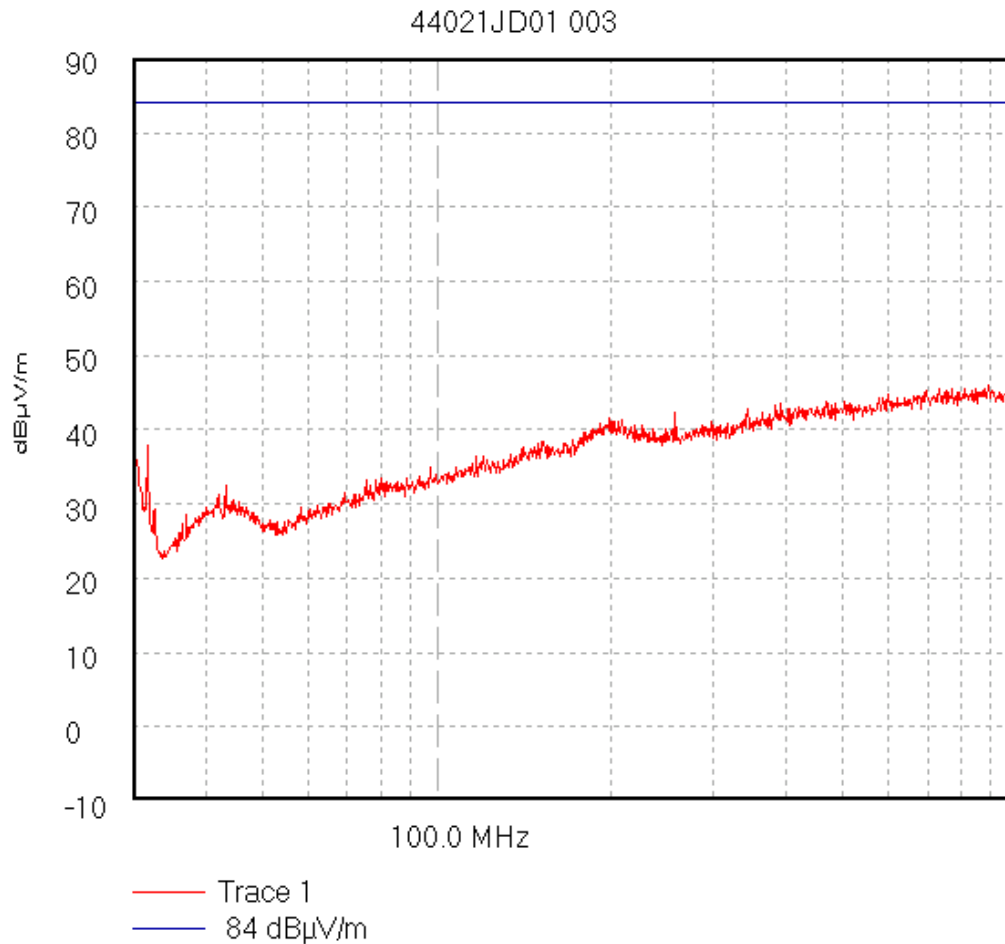
Transducer Factors: A490

21/11/2002 14:42:09

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\003Radiated Emissions. FCC Part 15.209. PreScan @ 3m.IMEI:-004400/12/166790/9. Operating Condition :- Allocated Middle Channel.

Start 30.0 MHz; Stop 1.0 GHz - Log Scale

Ref 90 dBµV/m; Ref Offset 0.0 dB; 10 dB/div

RBW 120.0 kHz; VBW 100.0 kHz; Att 6 dB; Swp 440.0 mS

Peak 990.3 MHz, 46.38 dBµV/m

Display Line: 84 dBµV/m; ; Limit Test Failed

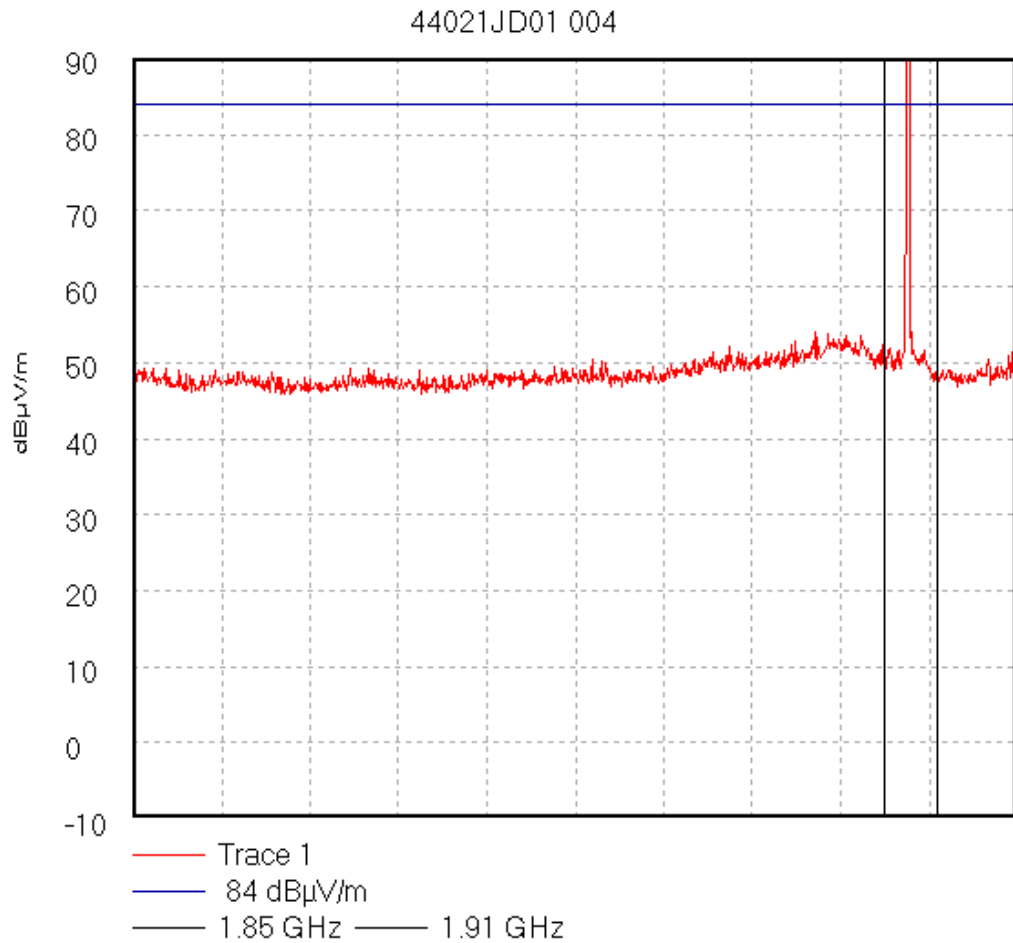
Transducer Factors: A490

21/11/2002 14:55:20

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\004IMEI:-004400/12/166790/9. Operating Condition :- Allocated Middle Channel.

Start 1.0 GHz; Stop 2.0 GHz

Ref 90 dBμV/m; Ref Offset 0.0 dB; 10 dB/div

RBW 1000.0 kHz; VBW 1.0 MHz; Att 6 dB; Swp 20.0 mS

Peak 1.877 GHz, 93.98 dBμV/m

Display Line: 84 dBμV/m; ; Limit Test Failed

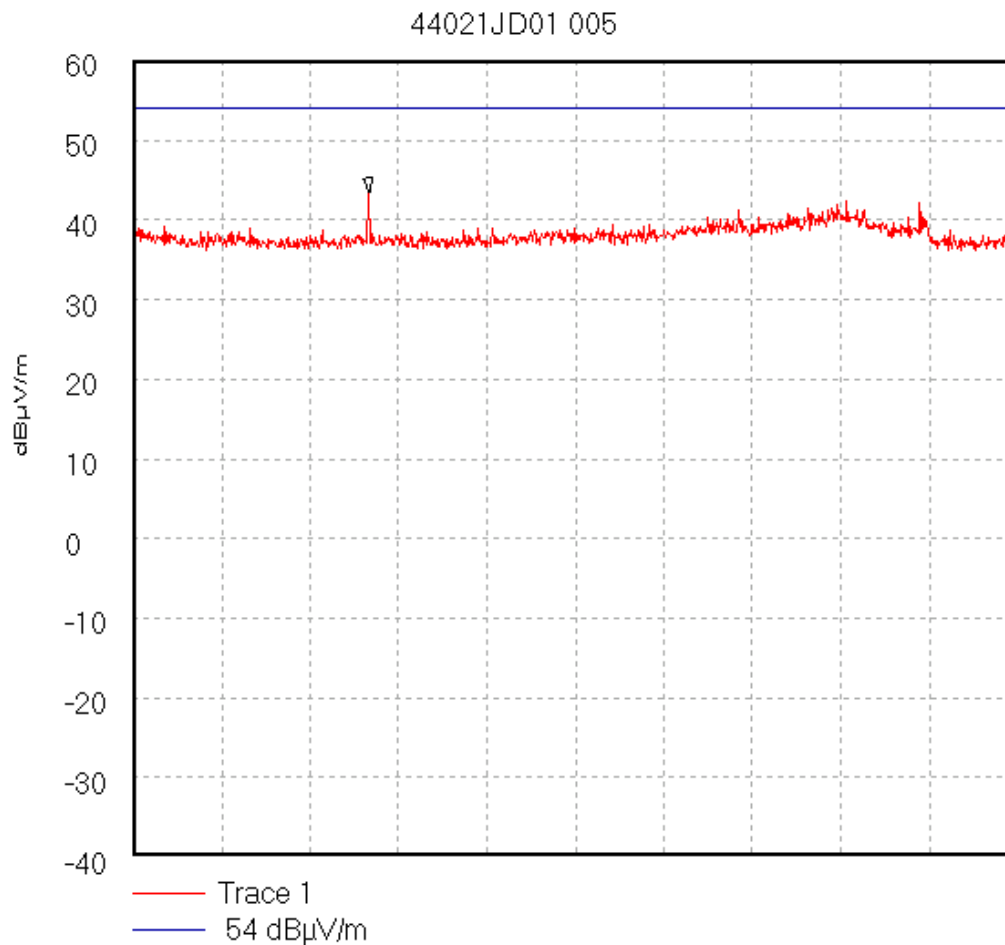
Transducer Factors: 1 to 2

21/11/2002 15:08:54

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\005IMEI:-004400/12/166790/9. Operating Condition :- Idle Mode.

Start 1.0 GHz; Stop 2.0 GHz

Ref 60 dB μ V/m; Ref Offset 0.0 dB; 10 dB/div

RBW 1000.0 kHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS

Peak 1.267 GHz, 43.35 dB μ V/mDisplay Line: 54 dB μ V/m; ; Limit Test Failed

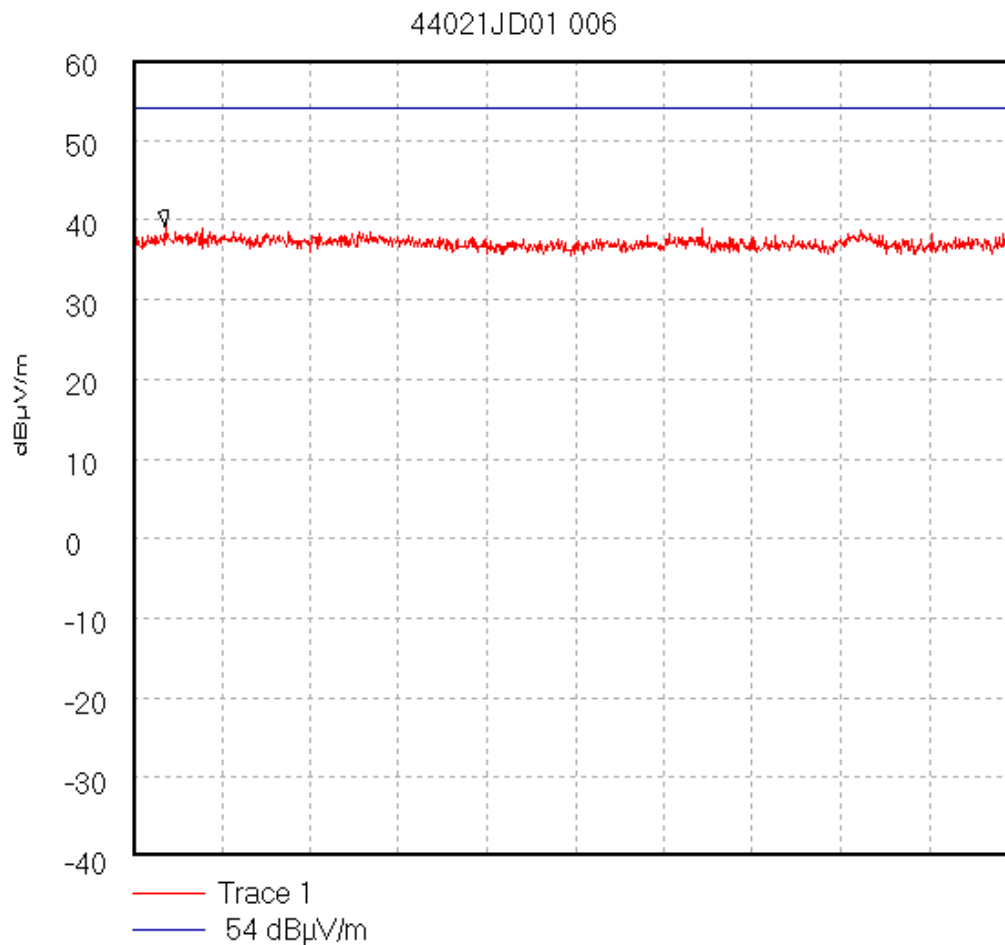
Transducer Factors: 1 to 2

21/11/2002 15:16:53

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\006IMEI:-004400/12/166790/9. Operating Condition :- Idle Mode.

Start 2.0 GHz; Stop 4.0 GHz

Ref 60 dBμV/m; Ref Offset 0.0 dB; 10 dB/div

RBW 1000.0 kHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS

Peak 2.073 GHz, 39.21 dBμV/m

Display Line: 54 dBμV/m; ; Limit Test Failed

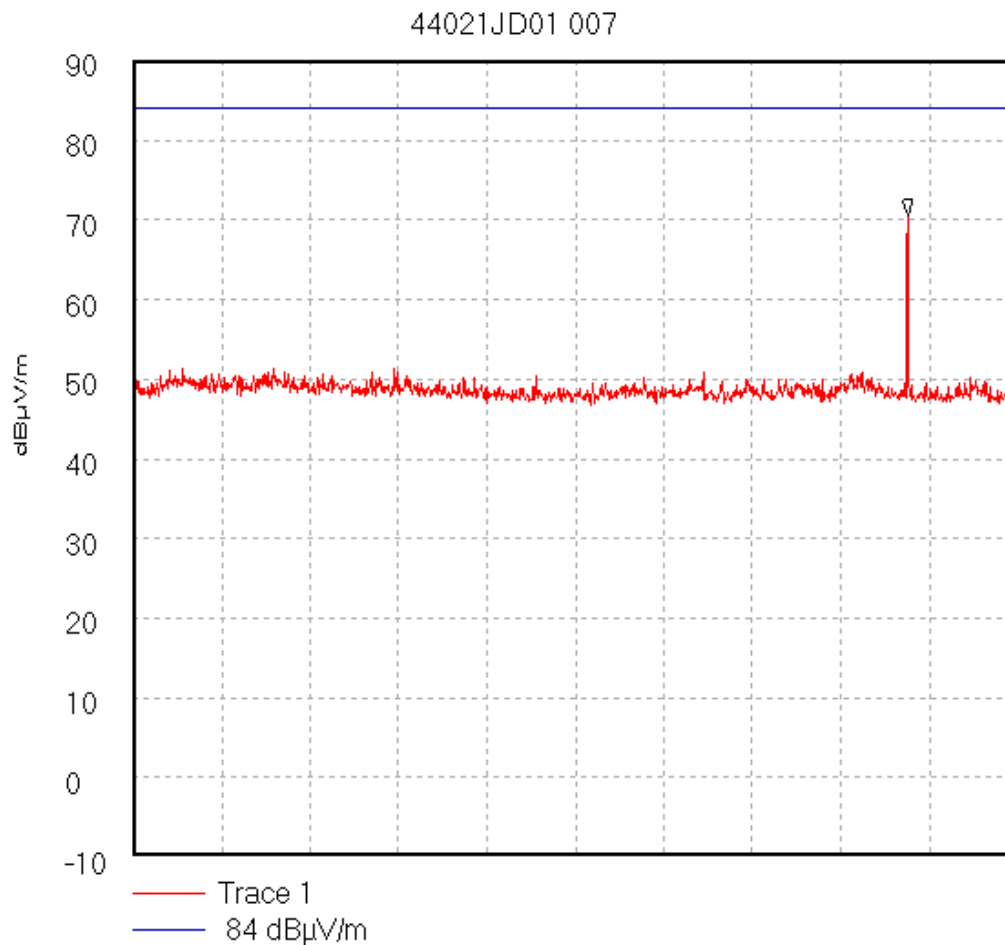
Transducer Factors: 2 to 4

21/11/2002 15:23:06

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\007IMEI:-004400/12/166790/9. Operating Condition :- Allocated Middle Channel.

Start 2.0 GHz; Stop 4.0 GHz

Ref 90 dB μ V/m; Ref Offset 0.0 dB; 10 dB/div

RBW 1000.0 kHz; VBW 1.0 MHz; Att 6 dB; Swp 20.0 mS

Peak 3.753 GHz, 70.53 dB μ V/mDisplay Line: 84 dB μ V/m; ; Limit Test Failed

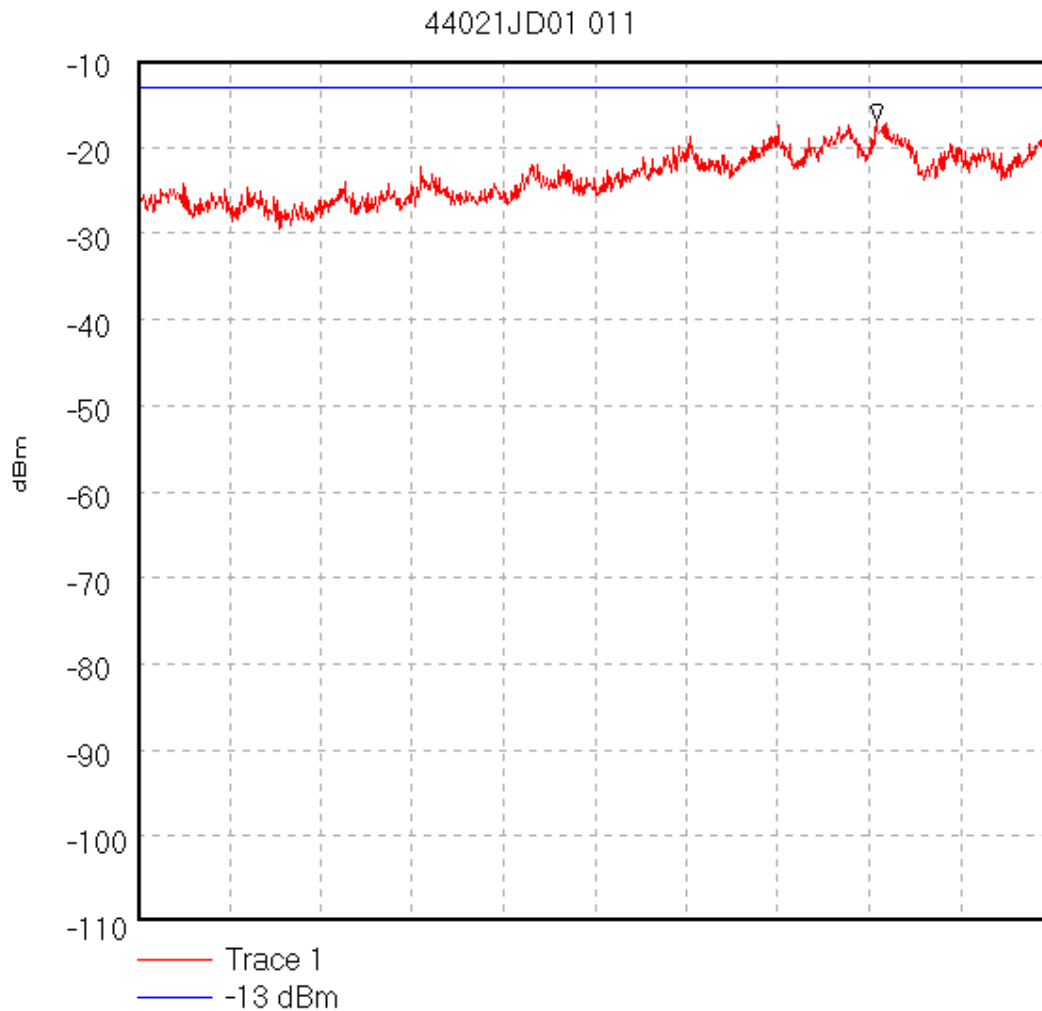
Transducer Factors: 2 to 4

21/11/2002 15:25:07

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\011Radiated Spurious Emissions.IMEI:-004400/12/166790/9. Operating Condition :- Middle Channel. FCC Part 24.238

Start 18.0 GHz; Stop 26.5 GHz

Ref -10 dBm; Ref Offset 54.8 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 40.0 mS

Peak 24.875556 GHz, -17.03 dBm

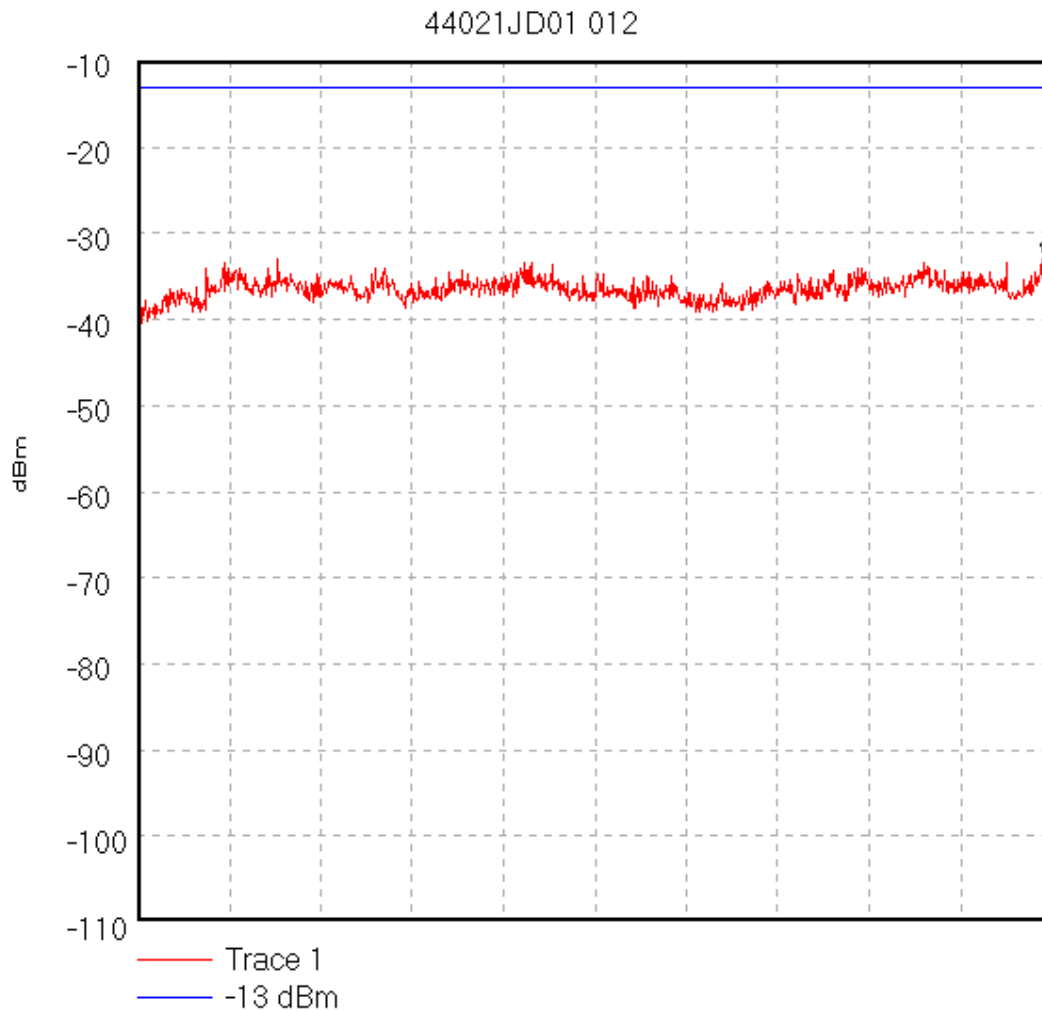
Display Line: -13 dBm;

28/11/02 11:33:56

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\012Radiated Spurious Emissions.IMEI:-004400/12/166790/9. Operating Condition :- Middle Channel. FCC Part 24.238

Start 12.5 GHz; Stop 18.0 GHz

Ref -10 dBm; Ref Offset 41.3 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 5 dB; Swp 40.0 mS

Peak 17.963333 GHz, -32.98 dBm

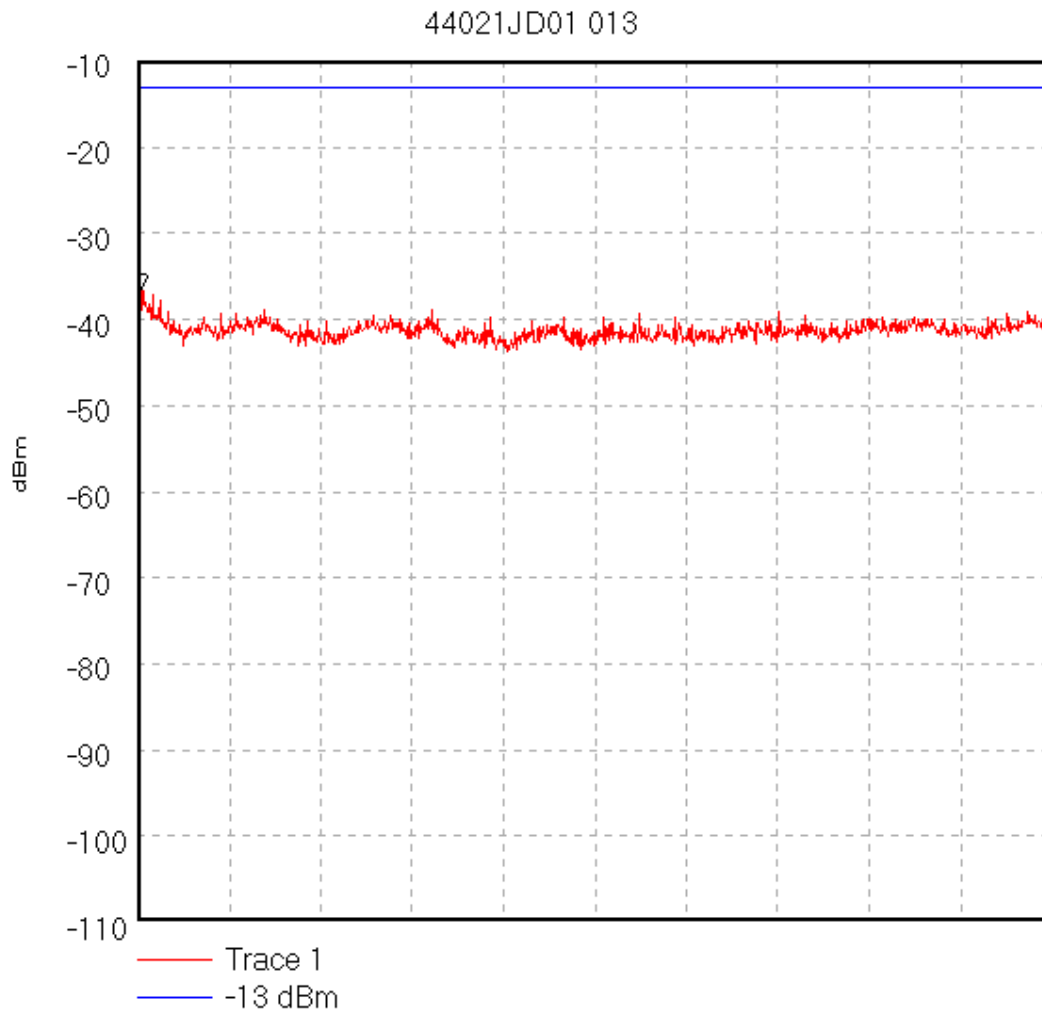
Display Line: -13 dBm;

28/11/02 11:37:56

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\013Radiated Spurious EmissionsIMEI:-004400/12/166790/9. Operating Condition :- Middle Channel. FCC Part 24.238

Start 8.0 GHz; Stop 12.5 GHz

Ref -10 dBm; Ref Offset 39.0 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 5 dB; Swp 20.0 mS

Peak 8.015 GHz, -36.71 dBm

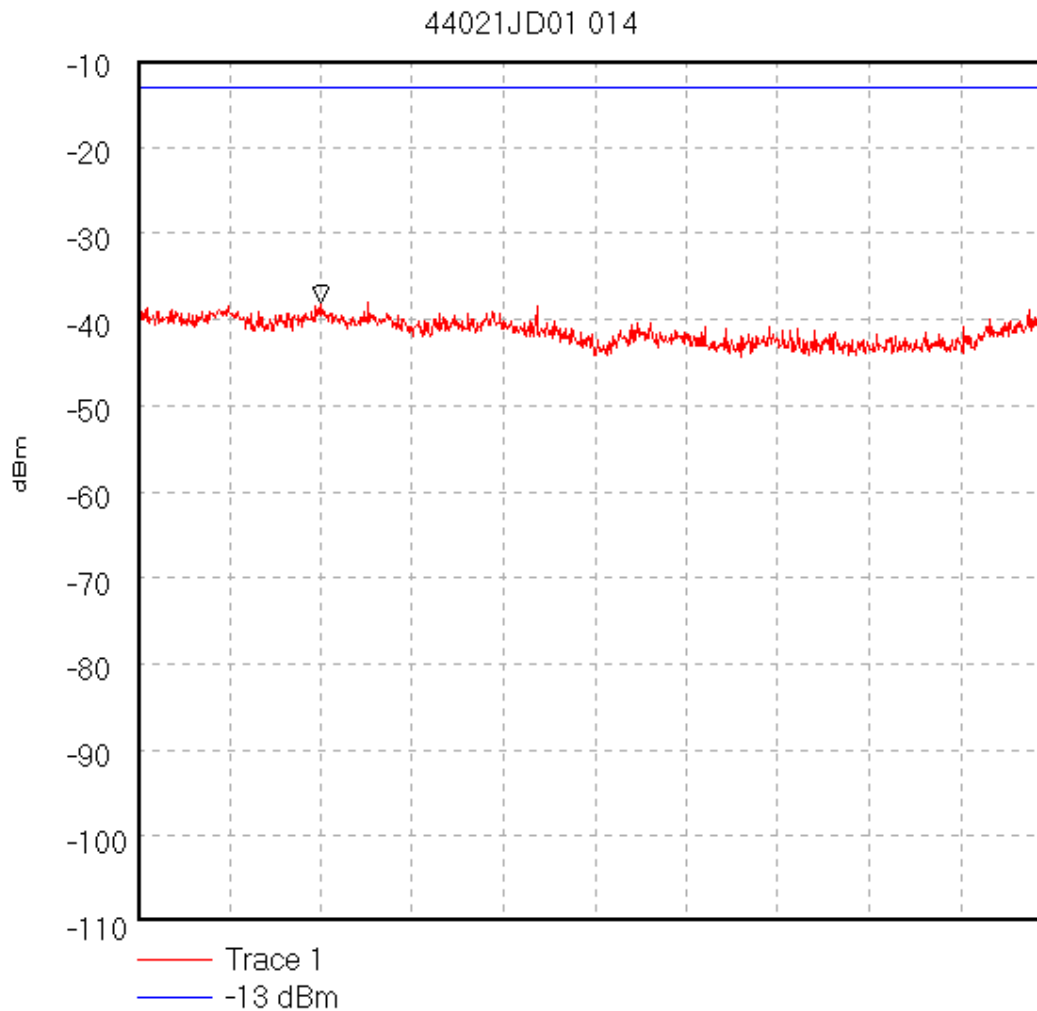
Display Line: -13 dBm;

28/11/02 11:40:52

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\014Radiated Spurious Emissions.IMEI:-004400/12/166790/9. Operating Condition :- Middle Channel. FCC Part 24.238

Start 6.0 GHz; Stop 8.0 GHz

Ref -10 dBm; Ref Offset 36.2 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 5 dB; Swp 20.0 mS

Peak 6.402222 GHz, -38.05 dBm

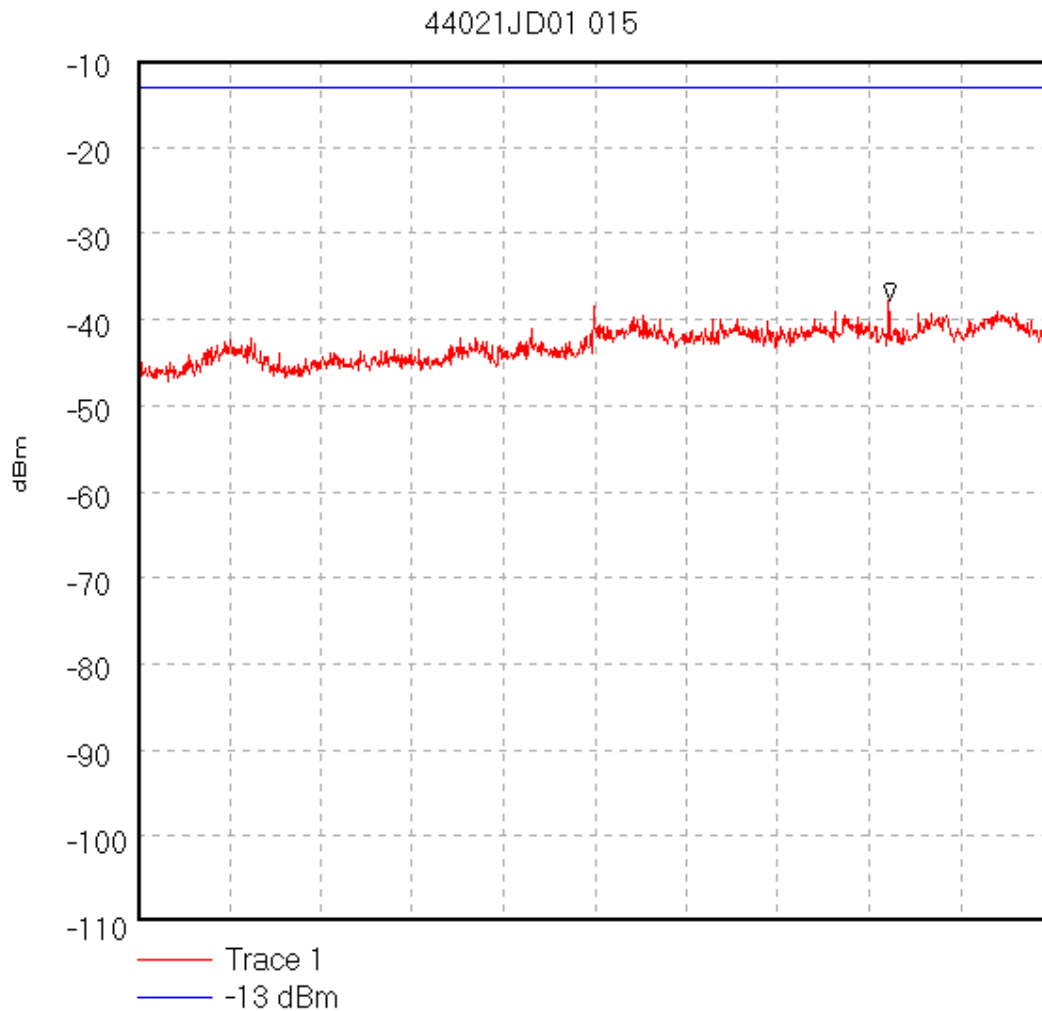
Display Line: -13 dBm;

28/11/02 11:44:40

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\015Radiated Spurious Emissions.IMEI:-004400/12/166790/9. Operating Condition :- Middle Channel. FCC Part 24.238

Start 4.0 GHz; Stop 6.0 GHz

Ref -10 dBm; Ref Offset 34.0 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 5 dB; Swp 20.0 mS

Peak 5.644444 GHz, -37.78 dBm

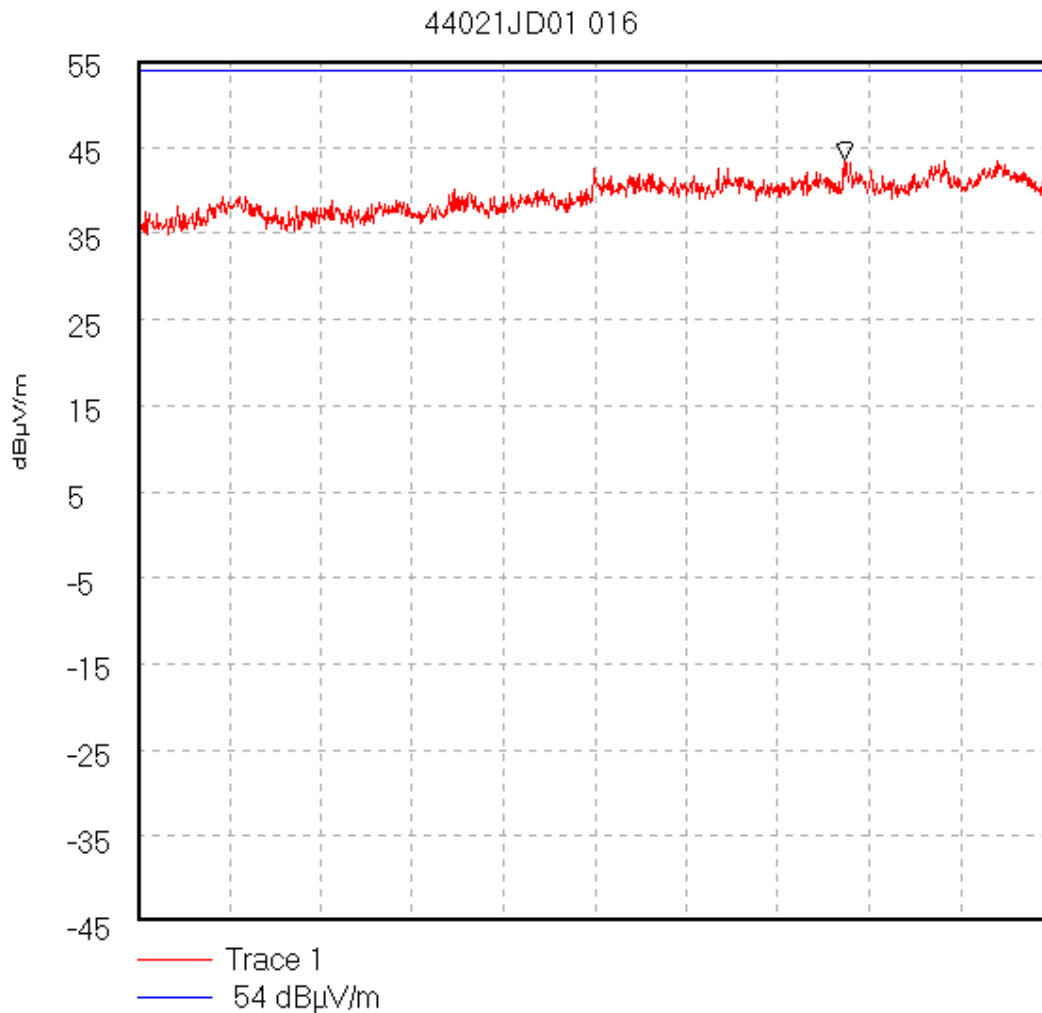
Display Line: -13 dBm;

28/11/02 12:00:40

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\016Radiated Spurious Emissions.IMEI:-004400/12/166790/9. Operating Condition :- Idle Mode. FCC Part 15.109.

Start 4.0 GHz; Stop 6.0 GHz

Ref 55 dBµV/m; Ref Offset 0.0 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS

Peak 5.548889 GHz, 43.6 dBµV/m

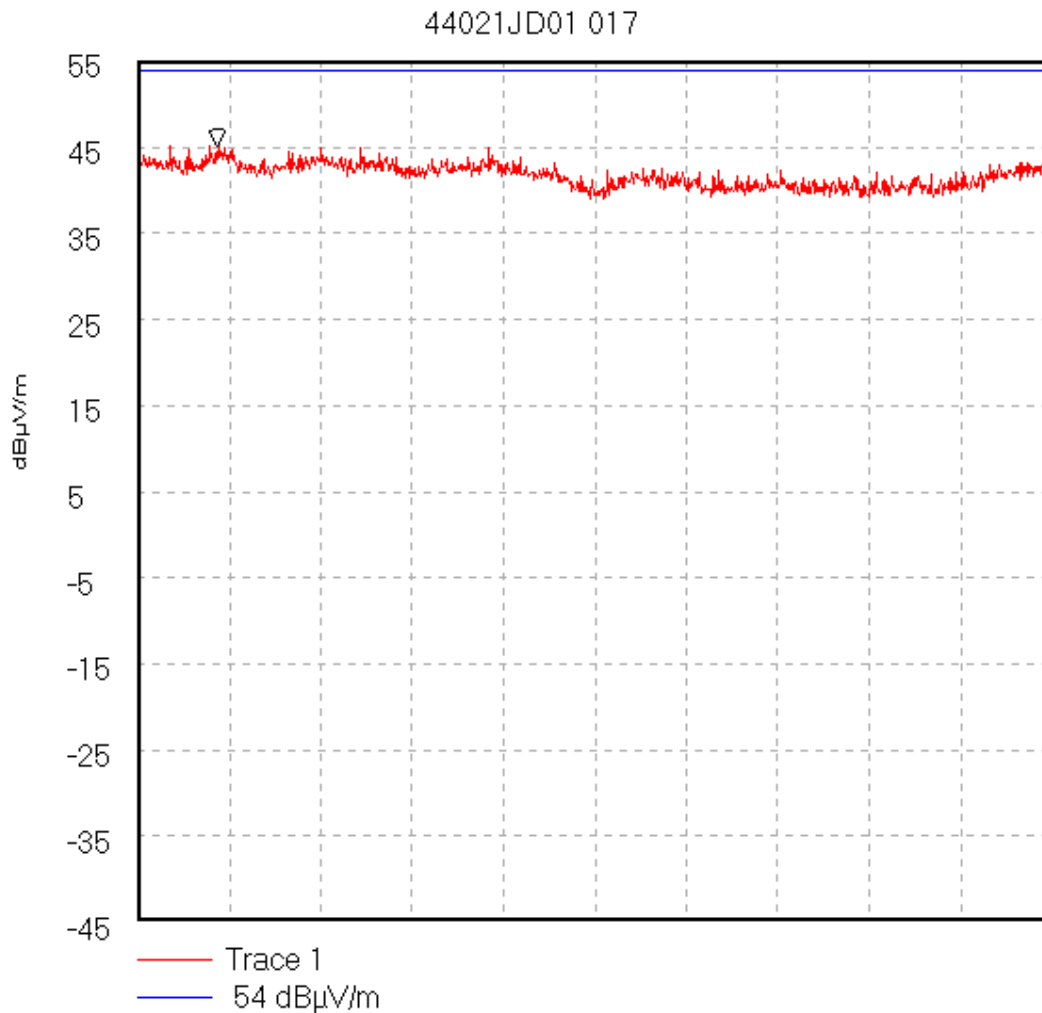
Display Line: 54 dBµV/m;

28/11/02 12:29:11

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\017Radiated Spurious Emissions.IMEI:-004400/12/166790/9. Operating Condition :- Idle Mode. FCC Part 15.109

Start 6.0 GHz; Stop 8.0 GHz

Ref 55 dBµV/m; Ref Offset 0.0 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS

Peak 6.175556 GHz, 45.18 dBµV/m

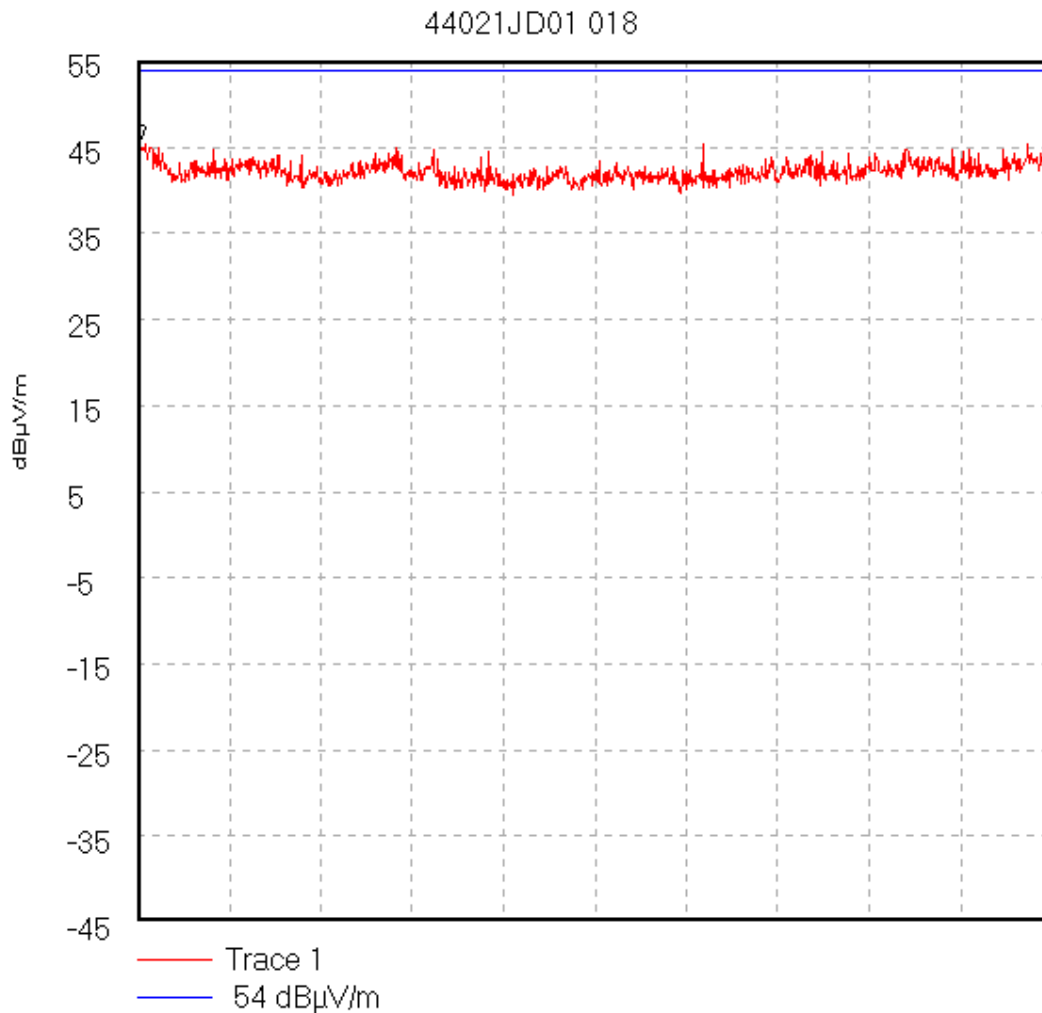
Display Line: 54 dBµV/m;

28/11/02 13:48:10

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\018Radiated Spurious Emissions.IMEI:-004400/12/166790/9. Operating Condition :- Idle Mode. FCC Part 15.109

Start 8.0 GHz; Stop 12.5 GHz

Ref 55 dBµV/m; Ref Offset 0.0 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS

Peak 8.01 GHz, 45.66 dBµV/m

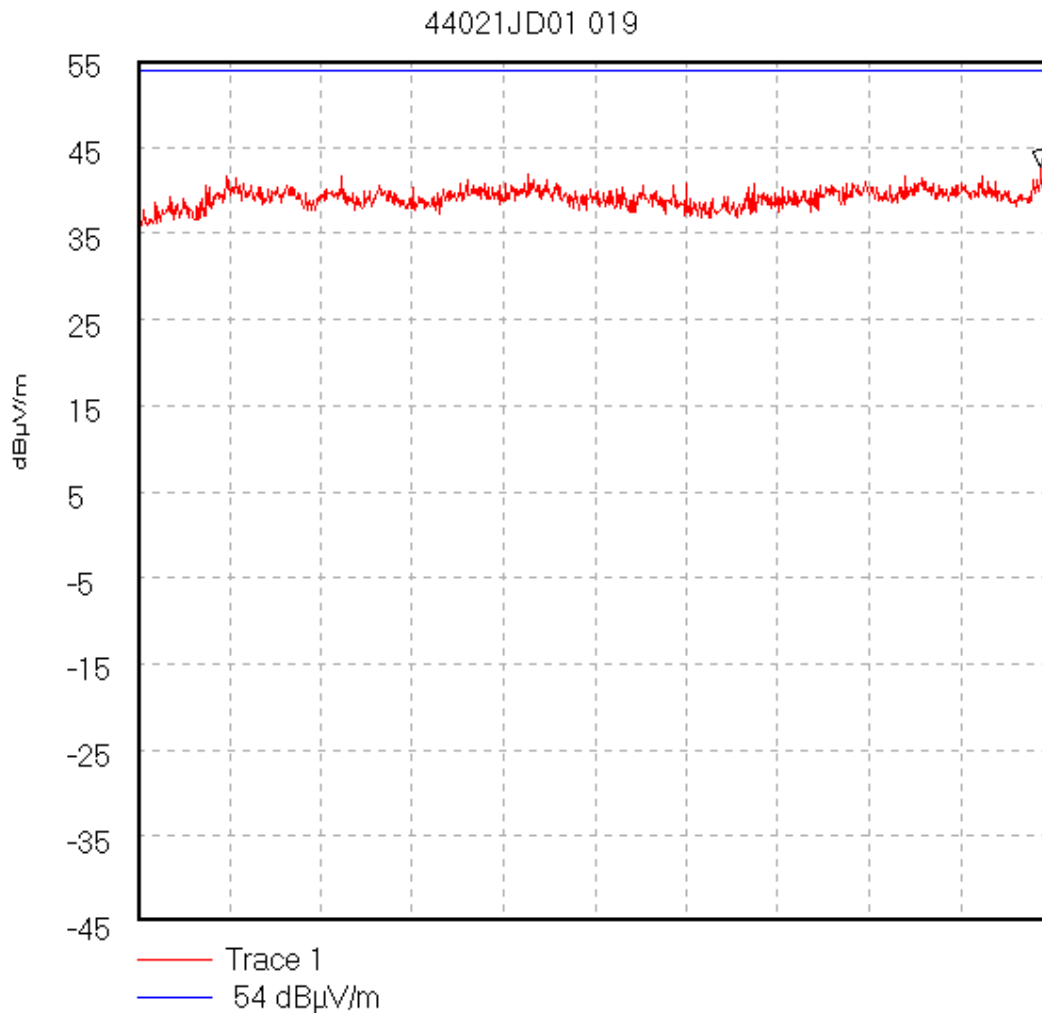
Display Line: 54 dBµV/m;

28/11/02 13:53:15

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\019Radiated Spurious Emissions.IMEI:-004400/12/166790/9. Operating Condition :- Idle Mode. FCC Part 15.109

Start 12.5 GHz; Stop 18.0 GHz

Ref 55 dB μ V/m; Ref Offset 0.0 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 40.0 mS

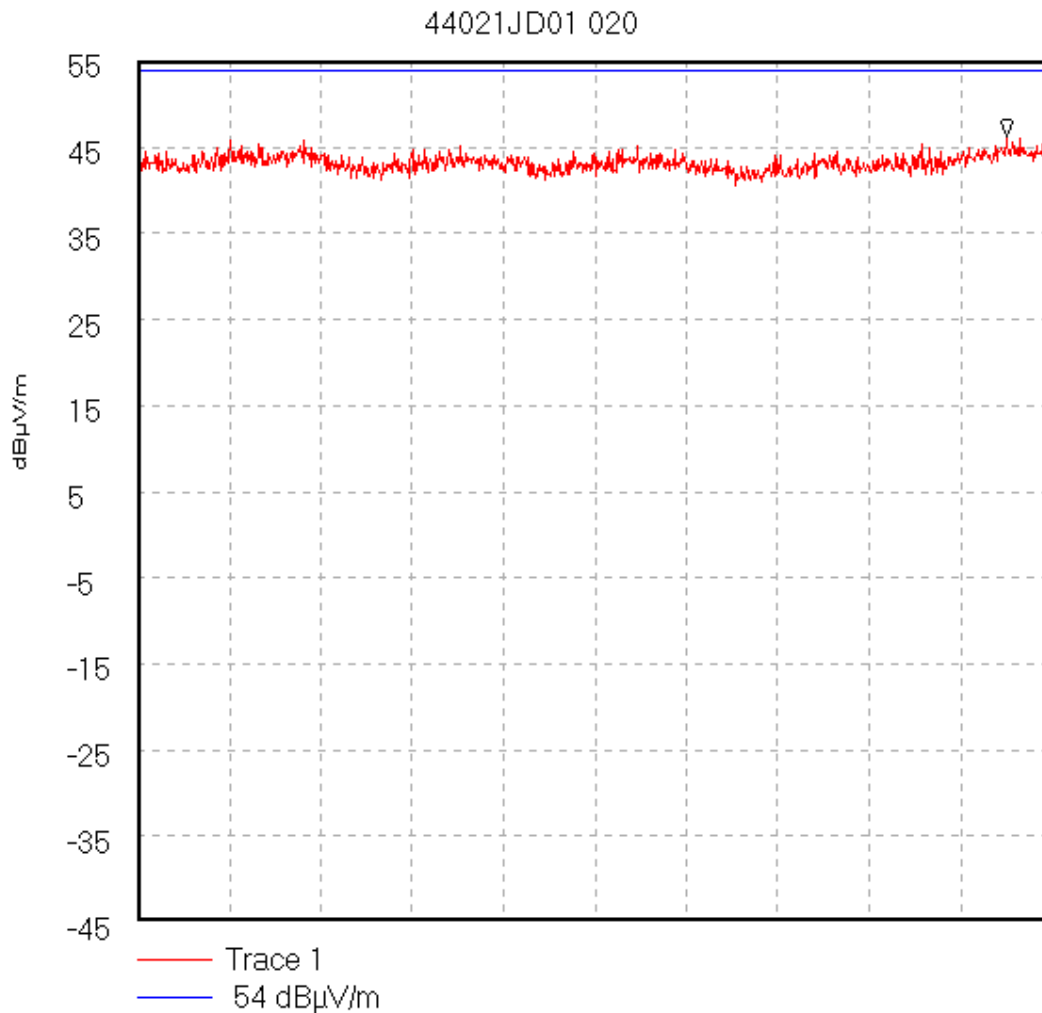
Peak 17.938889 GHz, 42.64 dB μ V/mDisplay Line: 54 dB μ V/m;

28/11/02 13:58:46

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\020Radiated Spurious EmissionsIMEI:-004400/12/166790/9. Operating Condition :- Idle Mode. FCC Part 15.109

Start 18.0 GHz; Stop 20.0 GHz

Ref 55 dB μ V/m; Ref Offset 0.0 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 20.0 mS

Peak 19.902222 GHz, 46.22 dB μ V/mDisplay Line: 54 dB μ V/m;

28/11/02 14:01:57

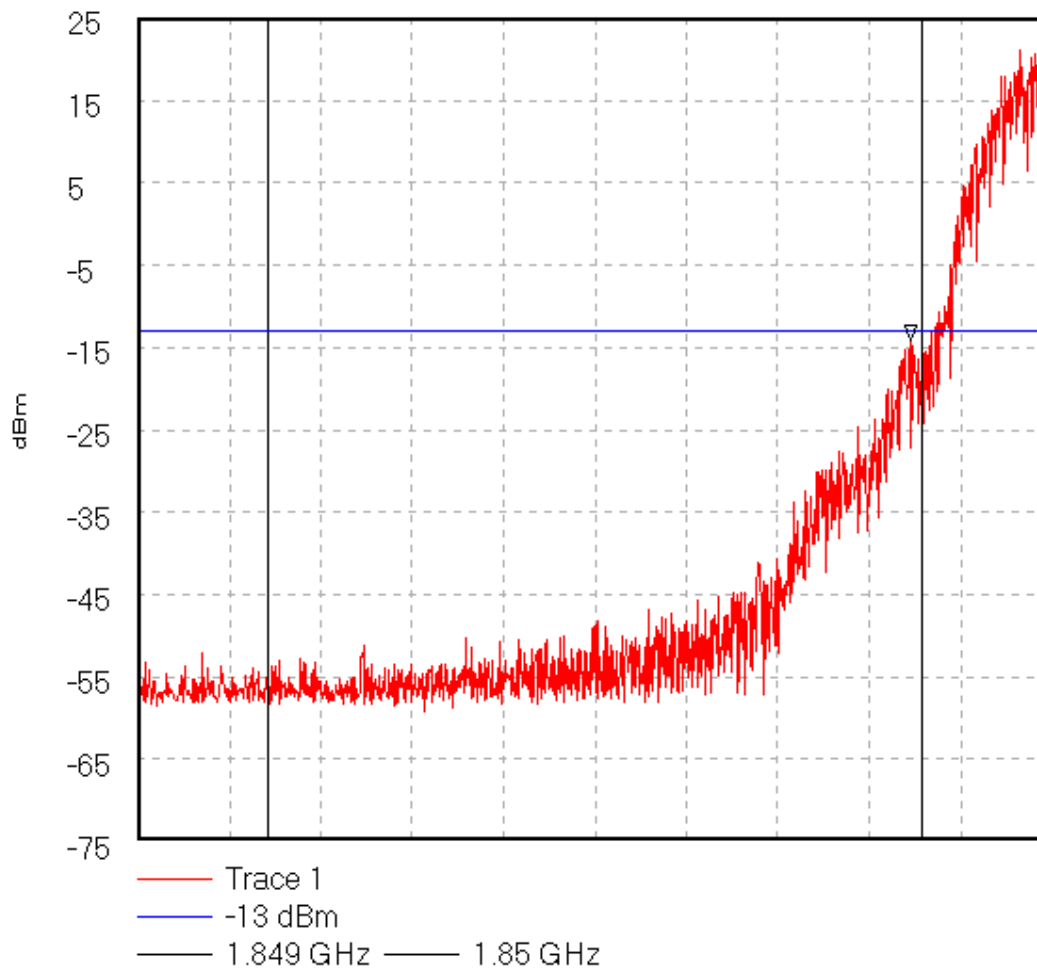
Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\021Radiated Spurious Emissions.IMEI:-004400/12/166790/9. Operating Condition :- Bottom Channel - Bandedge.FCC Part 24.238

44021JD01 021



Start 1.8488 GHz; Stop 1.8502 GHz

Ref 25 dBm; Ref Offset 35.5 dB; 10 dB/div

RBW 3.0 kHz; VBW 3.0 kHz; Att 20 dB; Swp 480.0 mS

Marker 1.849984 GHz, -14.2 dBm

Display Line: -13 dBm;

28/11/02 14:25:54

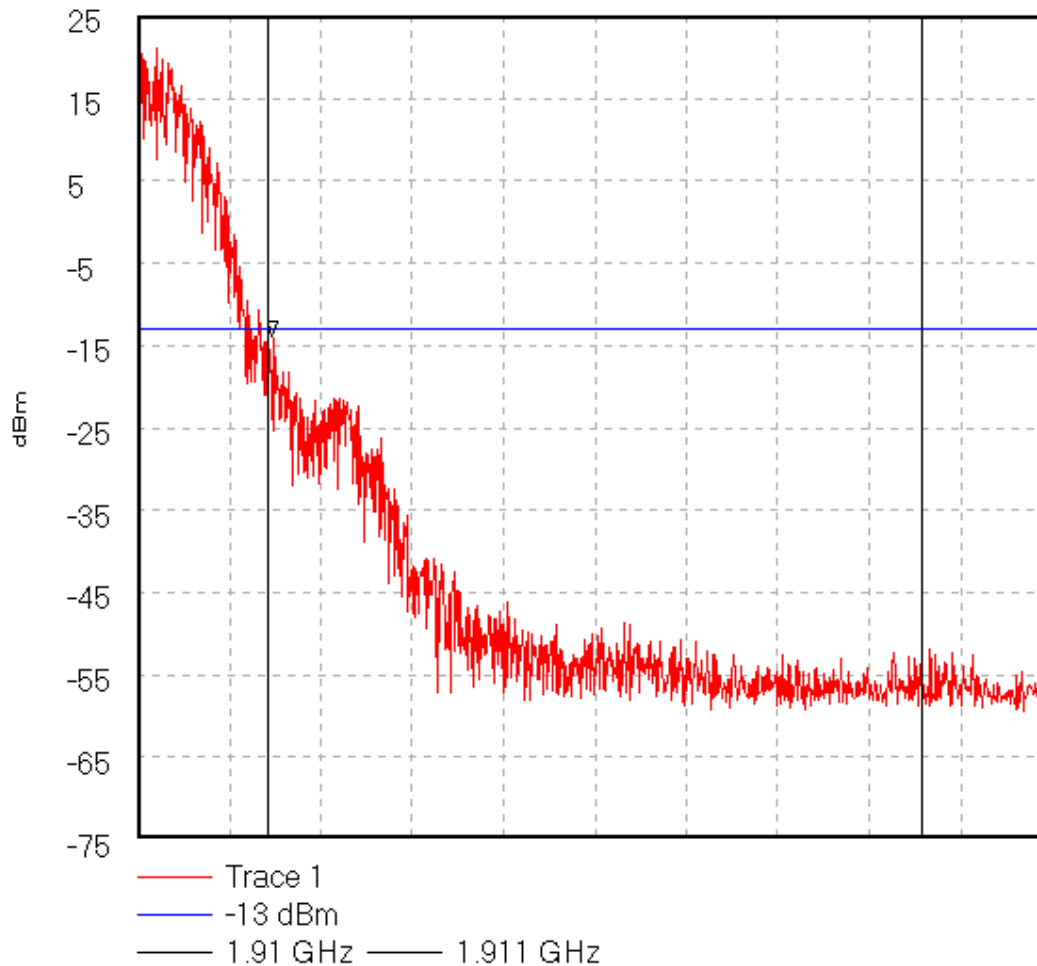
Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\022Radiated Spurious EmissionsIMEI:-004400/12/166790/9.Operating Condition :- Top Channel - Bandedge.FCC Part 24.238

44021JD01 022



Start 1.9098 GHz; Stop 1.9112 GHz

Ref 25 dBm; Ref Offset 35.5 dB; 10 dB/div

RBW 3.0 kHz; VBW 3.0 kHz; Att 20 dB; Swp 480.0 mS

Marker 1.910007 GHz, -14.02 dBm

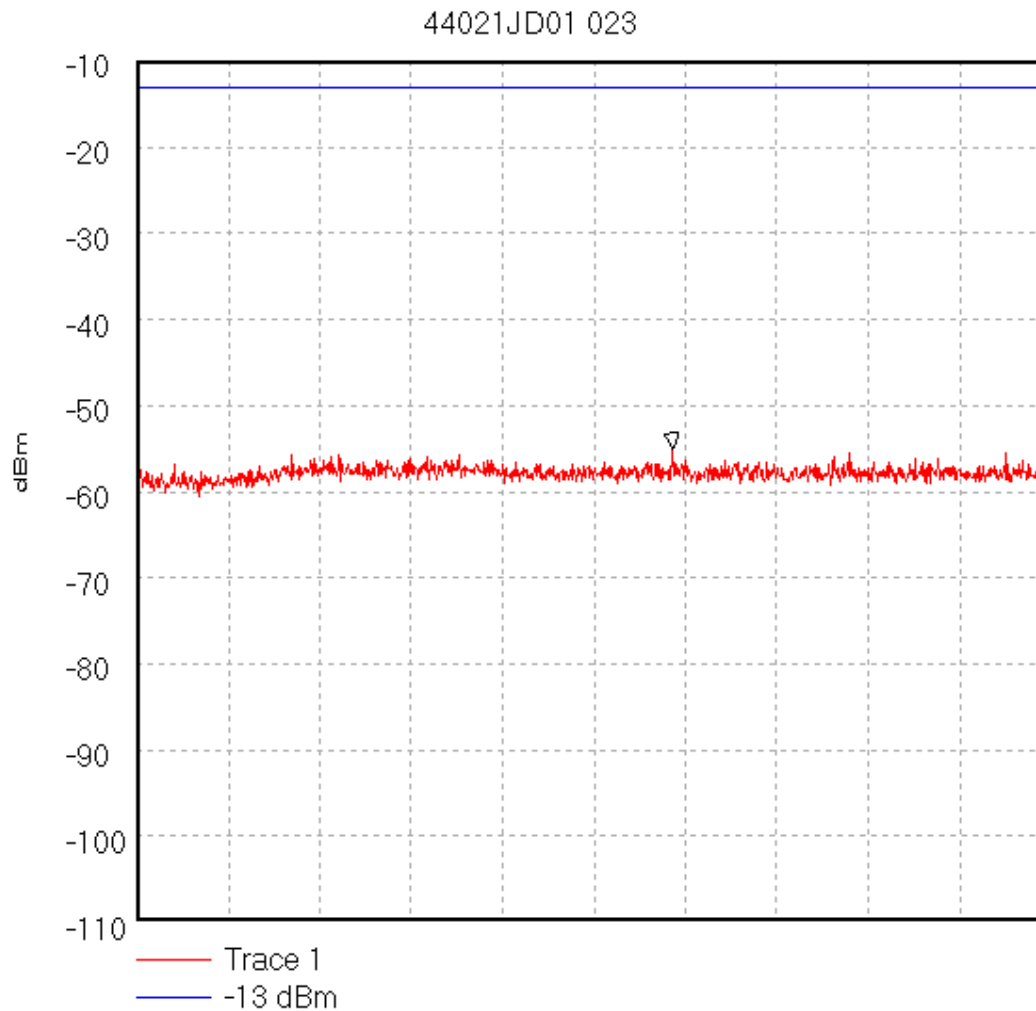
Display Line: -13 dBm;

28/11/02 14:33:13

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\023Conducted Antenna Port Spurious EmissionsIMEI:-004400/12/166777/6. Operating Condition :- Bottom Channel. FCC Part 24.238

Start 1.0 MHz; Stop 1.0 GHz

Ref -10 dBm; Ref Offset 41.8 dB; 10 dB/div

RBW 10.0 kHz; VBW 10.0 kHz; Att 10 dB; Swp 64.0 S

Peak 587.08 MHz, -55.04 dBm

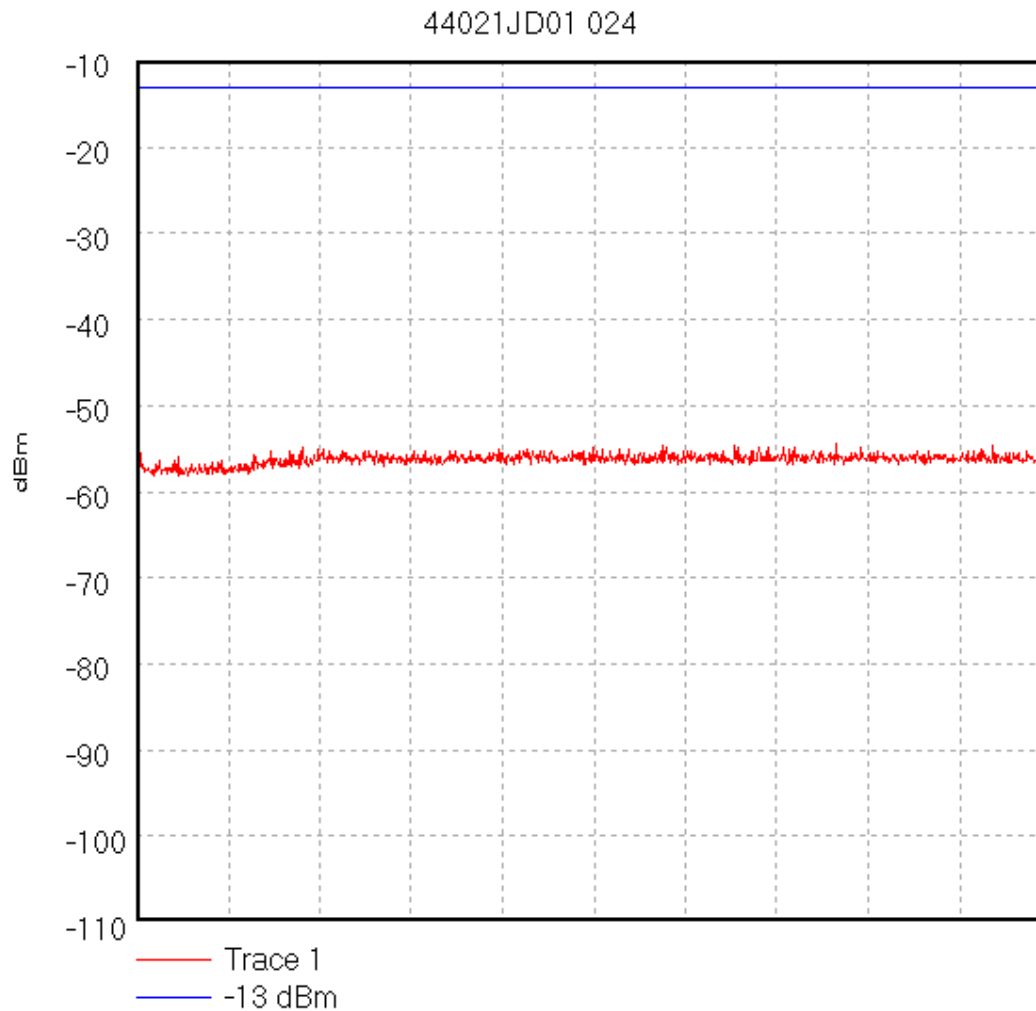
Display Line: -13 dBm; ; Limit Test Passed

29/11/02 12:15:45

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\024Conducted Antenna Port Spurious EmissionsIMEI:-004400/12/166777/6. Operating Condition :- Middle Channel. FCC Part 24.238

Start 1.0 MHz; Stop 1.0 GHz

Ref -10 dBm; Ref Offset 41.8 dB; 10 dB/div

RBW 10.0 kHz; VBW 10.0 kHz; Att 10 dB; Swp 64.0 S

Peak 991.12 MHz, -53.85 dBm

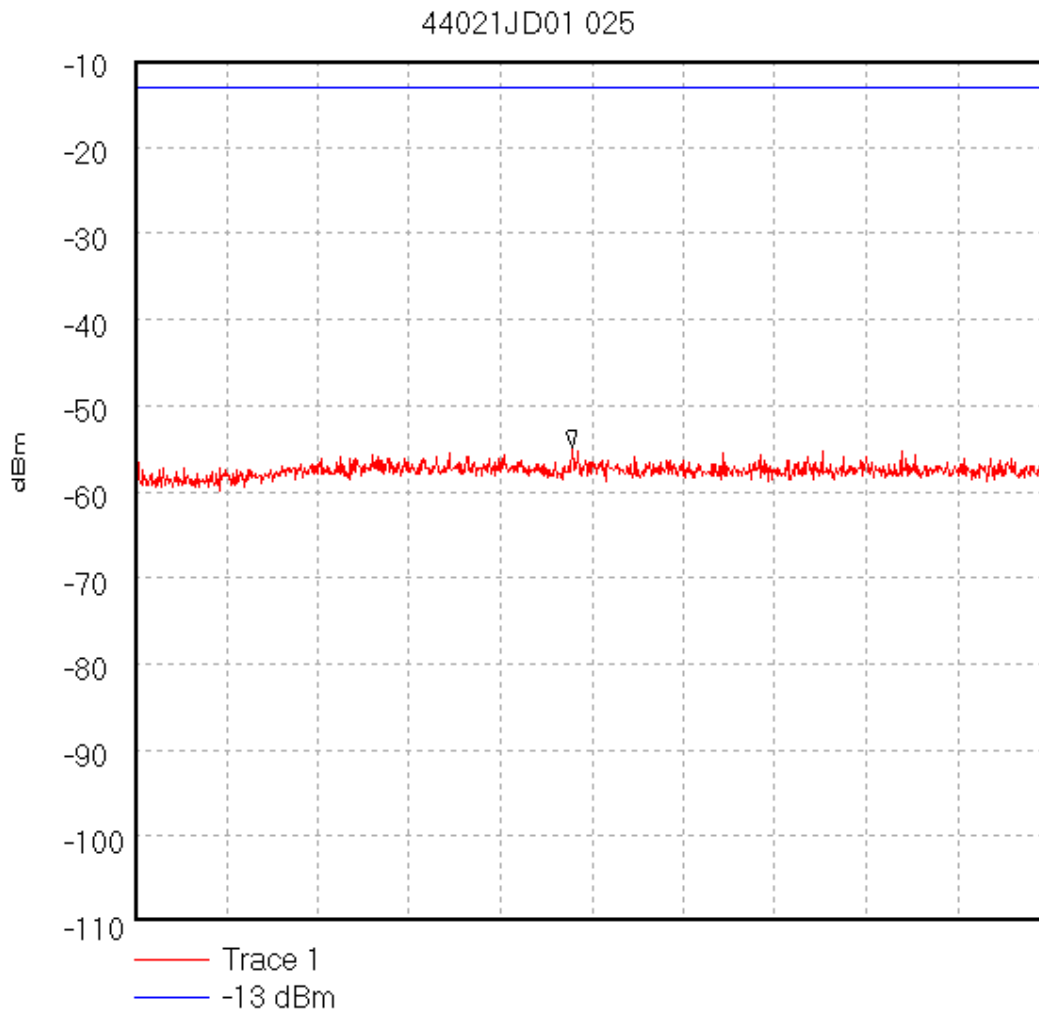
Display Line: -13 dBm; ; Limit Test Passed

29/11/02 13:24:54

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\025Conducted Antenna Port Spurious EmissionsIMEI:-004400/12/166777/6. Operating Condition :- Top Channel. FCC Part 24.238

Start 1.0 MHz; Stop 1.0 GHz

Ref -10 dBm; Ref Offset 41.8 dB; 10 dB/div

RBW 10.0 kHz; VBW 10.0 kHz; Att 10 dB; Swp 64.0 S

Peak 479.41 MHz, -54.81 dBm

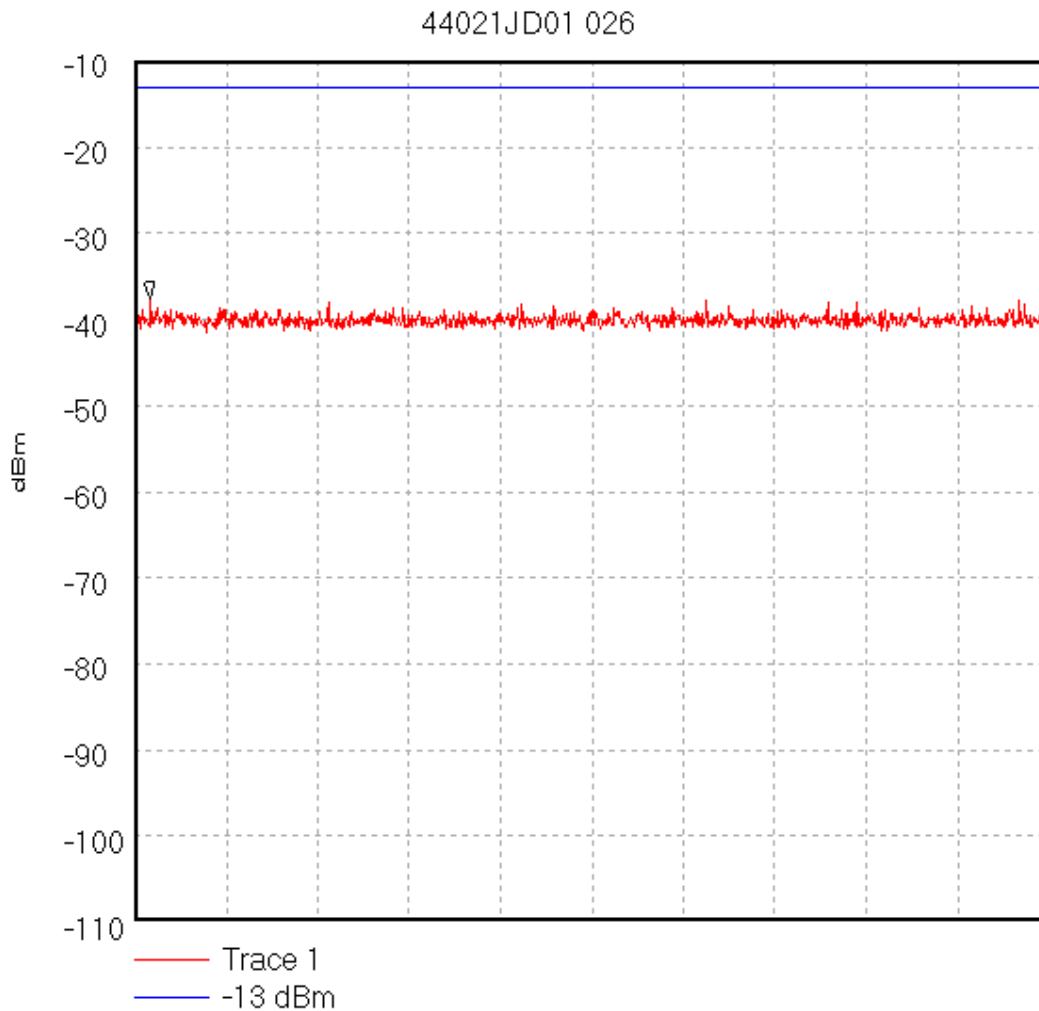
Display Line: -13 dBm; ; Limit Test Passed

29/11/02 13:28:24

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\026Conducted Antenna Port Emissions.IMEI:-004400/12/166777/6. Operating Condition :- Top Channel. FCC Part 24.238

Start 1.0 GHz; Stop 1.849 GHz

Ref -10 dBm; Ref Offset 41.9 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 6 dB; Swp 20.0 mS

Peak 1.01415 GHz, -37.55 dBm

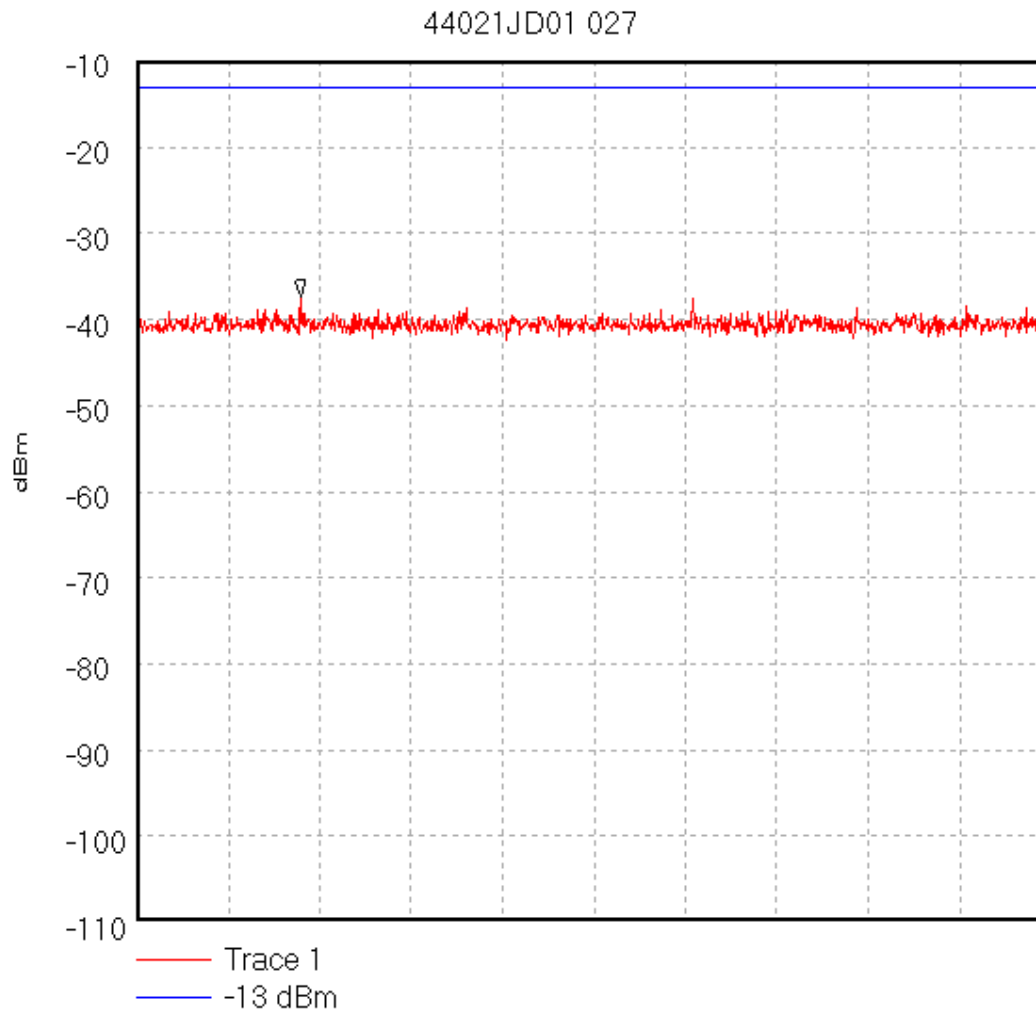
Display Line: -13 dBm;

29/11/02 13:30:25

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\027Conducted Antenna Port Emissions.IMEI:-004400/12/166777/6. Operating Condition :- Middle Channel. FCC Part 24.238

Start 1.0 GHz; Stop 1.849 GHz

Ref -10 dBm; Ref Offset 41.9 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 6 dB; Swp 20.0 mS

Peak 1.151877 GHz, -37.42 dBm

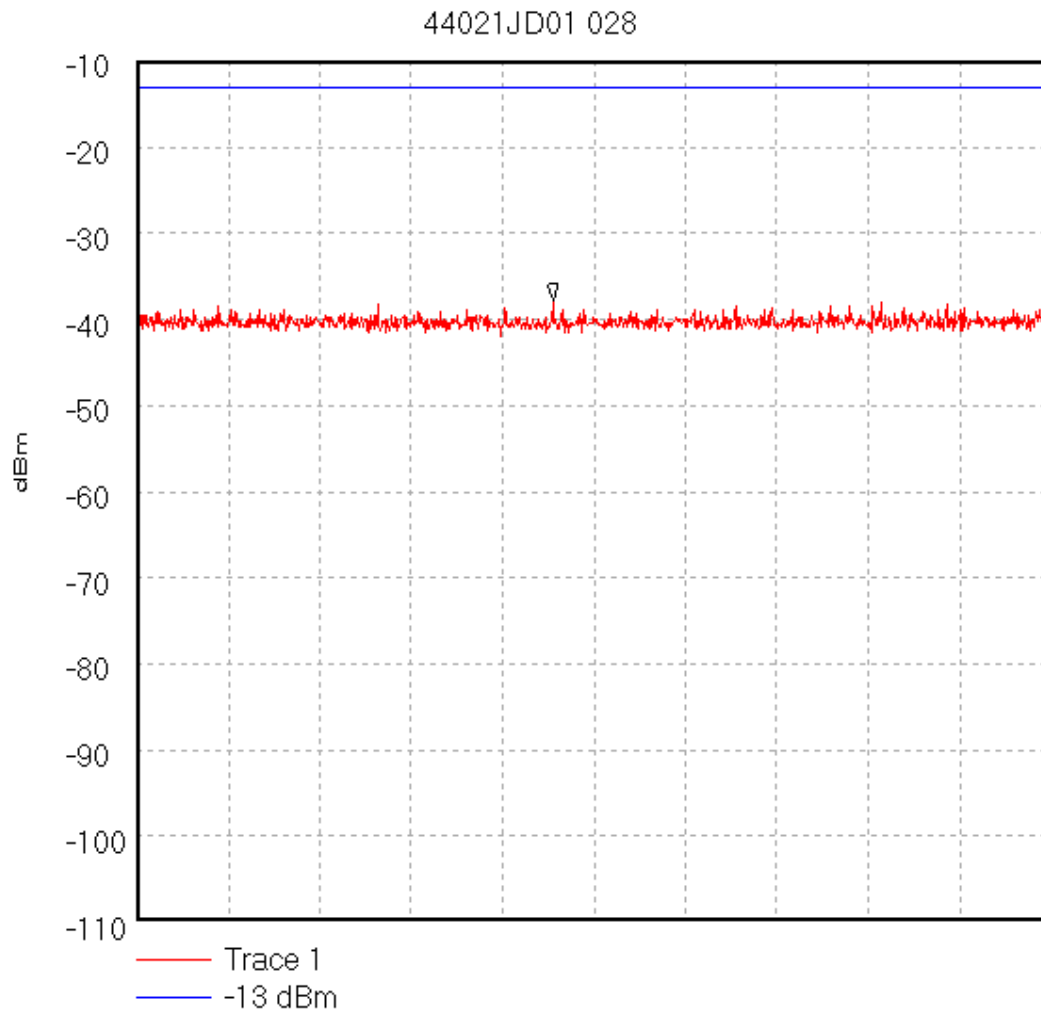
Display Line: -13 dBm;

29/11/02 13:31:39

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\028Conducted Antenna Port Emissions.IMEI:-004400/12/166777/6. Operating Condition :- Bottom Channel. FCC Part 24.238

Start 1.0 GHz; Stop 1.849 GHz

Ref -10 dBm; Ref Offset 41.9 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 6 dB; Swp 20.0 mS

Peak 1.386767 GHz, -37.72 dBm

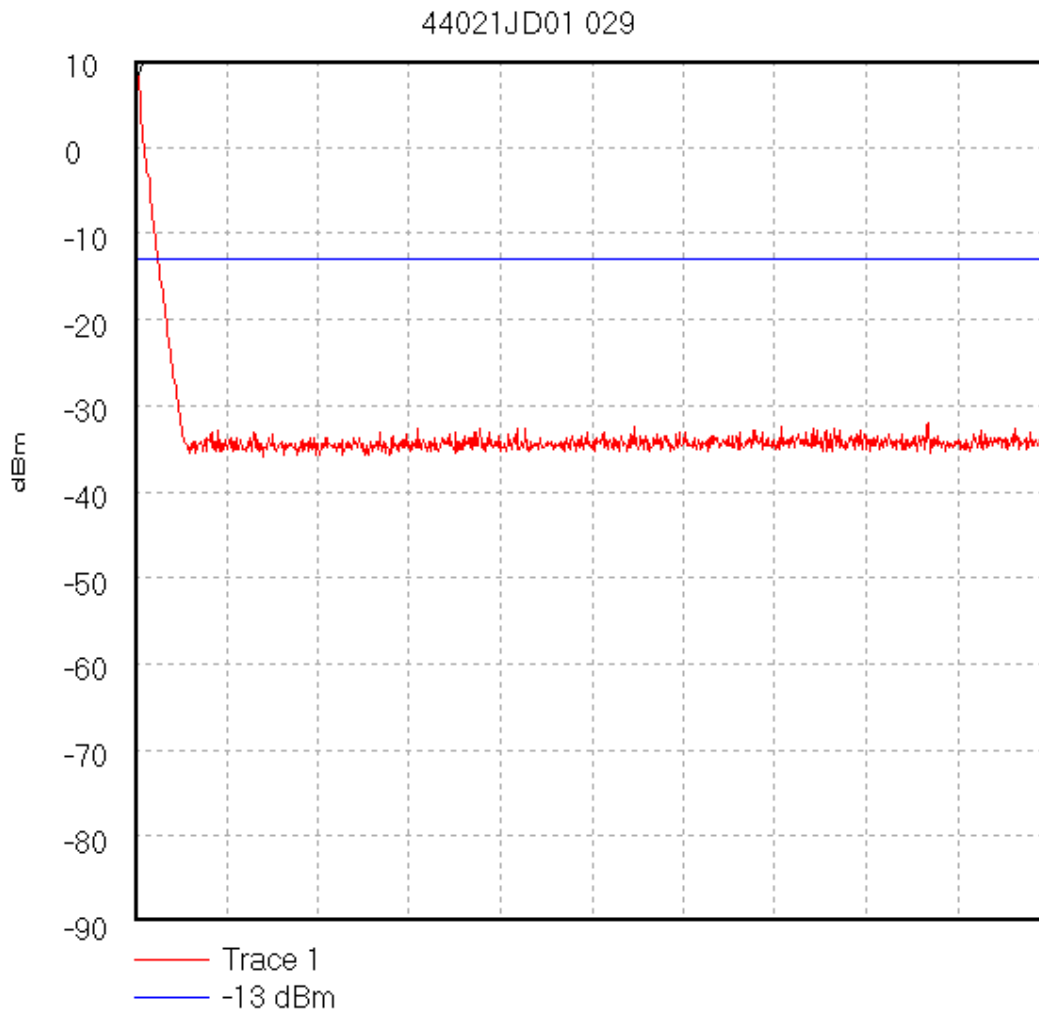
Display Line: -13 dBm;

29/11/02 13:32:43

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\029Conducted Antenna Port Spurious EmissionsIMEI:-004400/12/166777/6. Operating Condition :- Top Channel. FCC Part 24.238

Start 1.911 GHz; Stop 2.0 GHz

Ref 10 dBm; Ref Offset 42.0 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 10 dB; Swp 20.0 mS

Peak 1.911297 GHz, 8.18 dBm

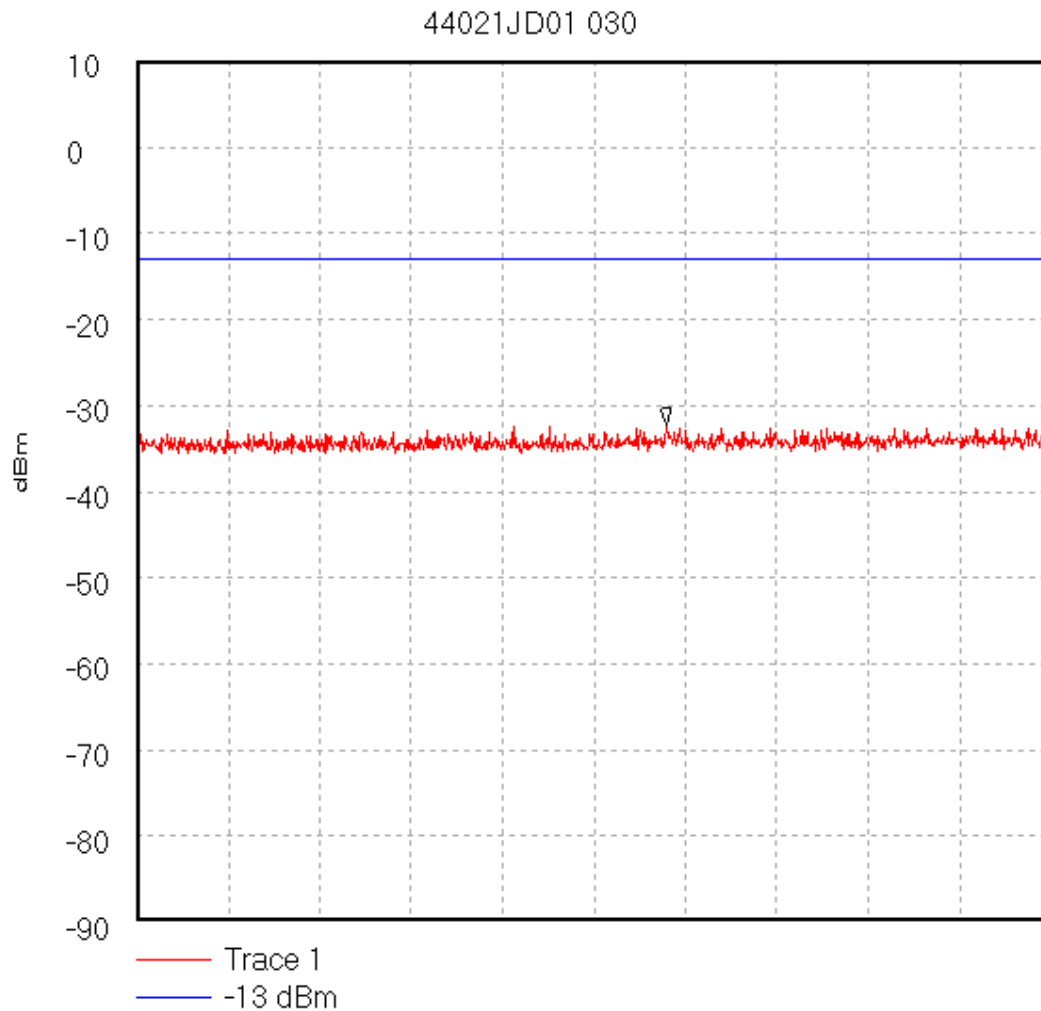
Display Line: -13 dBm;

29/11/02 13:36:12

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\030Conducted Antenna Port Spurious EmissionsIMEI:-004400/12/166777/6. Operating Condition :- Middle Channel. FCC Part 24.238

Start 1.911 GHz; Stop 2.0 GHz

Ref 10 dBm; Ref Offset 42.0 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 10 dB; Swp 20.0 mS

Peak 1.96262 GHz, -32.25 dBm

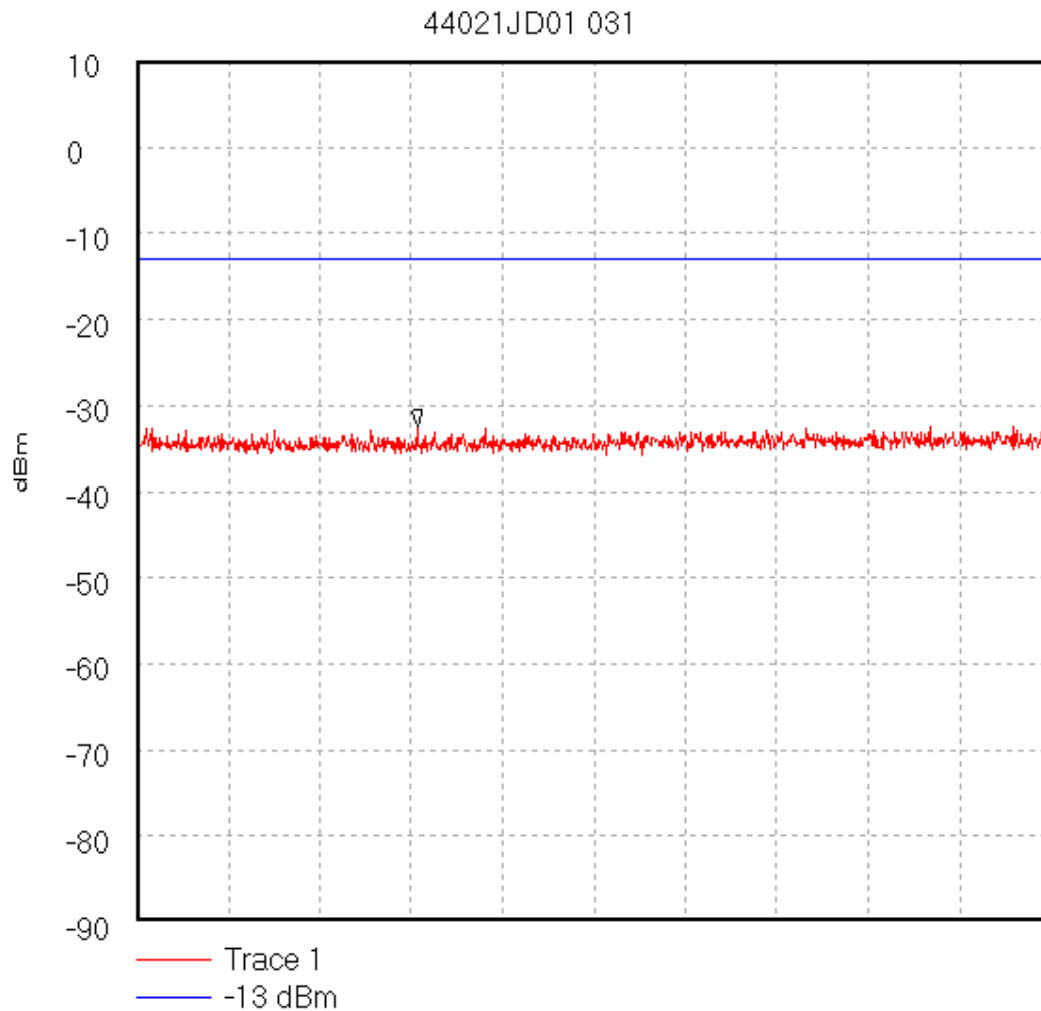
Display Line: -13 dBm;

29/11/02 13:37:01

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\031Conducted Antenna Port Spurious EmissionsIMEI:-004400/12/166777/6. Operating Condition :- Bottom Channel. FCC Part 24.238

Start 1.911 GHz; Stop 2.0 GHz

Ref 10 dBm; Ref Offset 42.0 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 10 dB; Swp 20.0 mS

Peak 1.938293 GHz, -32.45 dBm

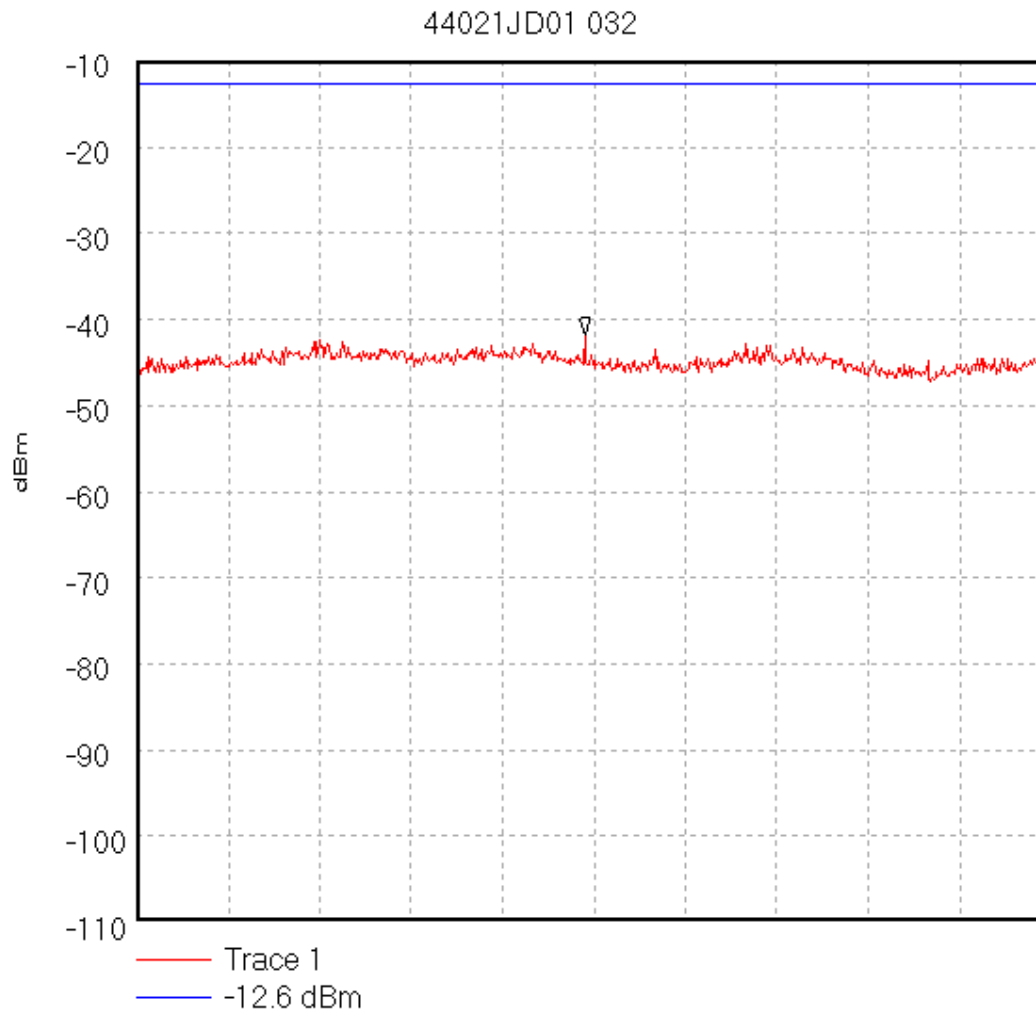
Display Line: -13 dBm;

29/11/02 13:37:42

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\032Conducted Antenna Port Spurious Emissions.IMEI:-004400/12/166777/6. Operating Condition :- Bottom Channel. FCC Part 24.238

Start 2.0 GHz; Stop 5.0 GHz

Ref -10 dBm; Ref Offset 35.0 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 60.0 mS

Peak 3.47 GHz, -41.83 dBm

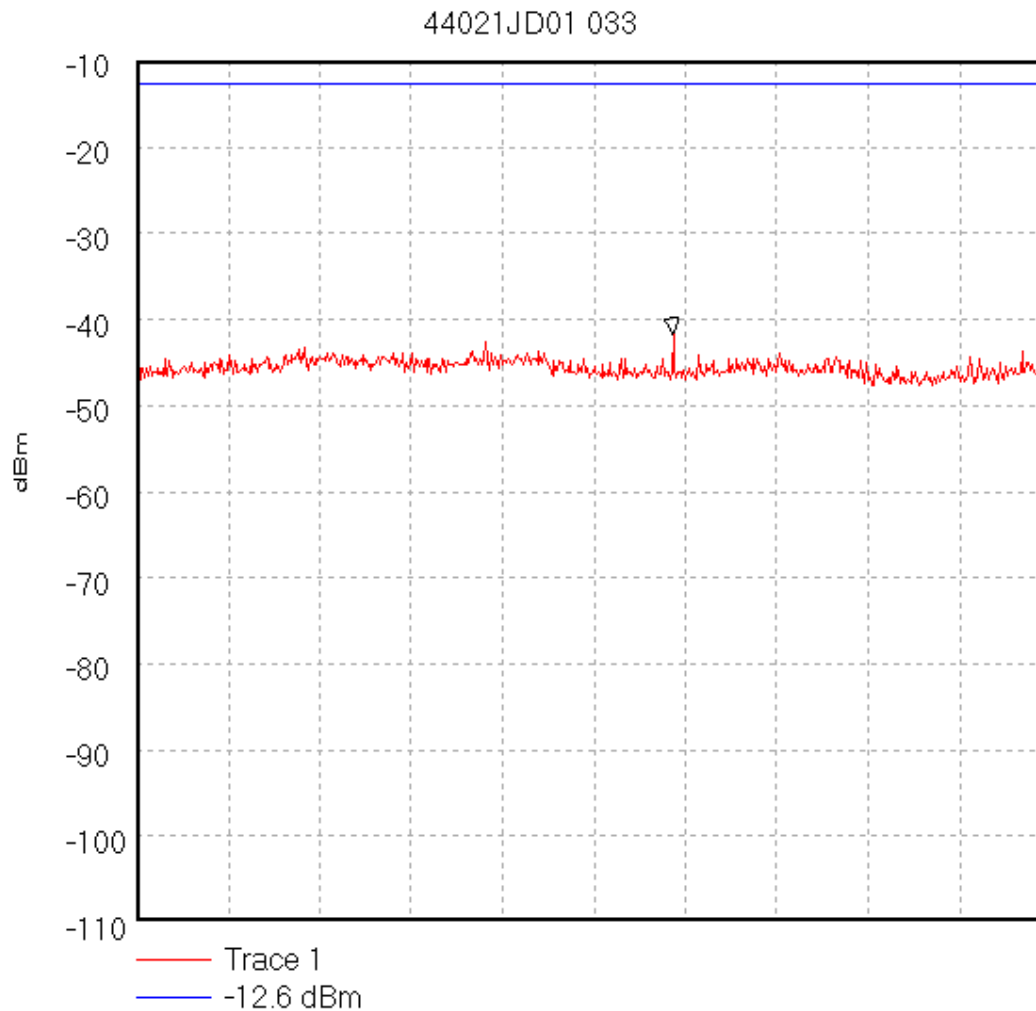
Display Line: -12.6 dBm;

29/11/02 14:16:00

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\033Conducted Antenna Port Spurious Emissions.IMEI:-004400/12/16677/6. Operating Condition :- Middle Channel. FCC Part 24.238

Start 2.0 GHz; Stop 5.0 GHz

Ref -10 dBm; Ref Offset 35.0 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 60.0 mS

Peak 3.76 GHz, -41.67 dBm

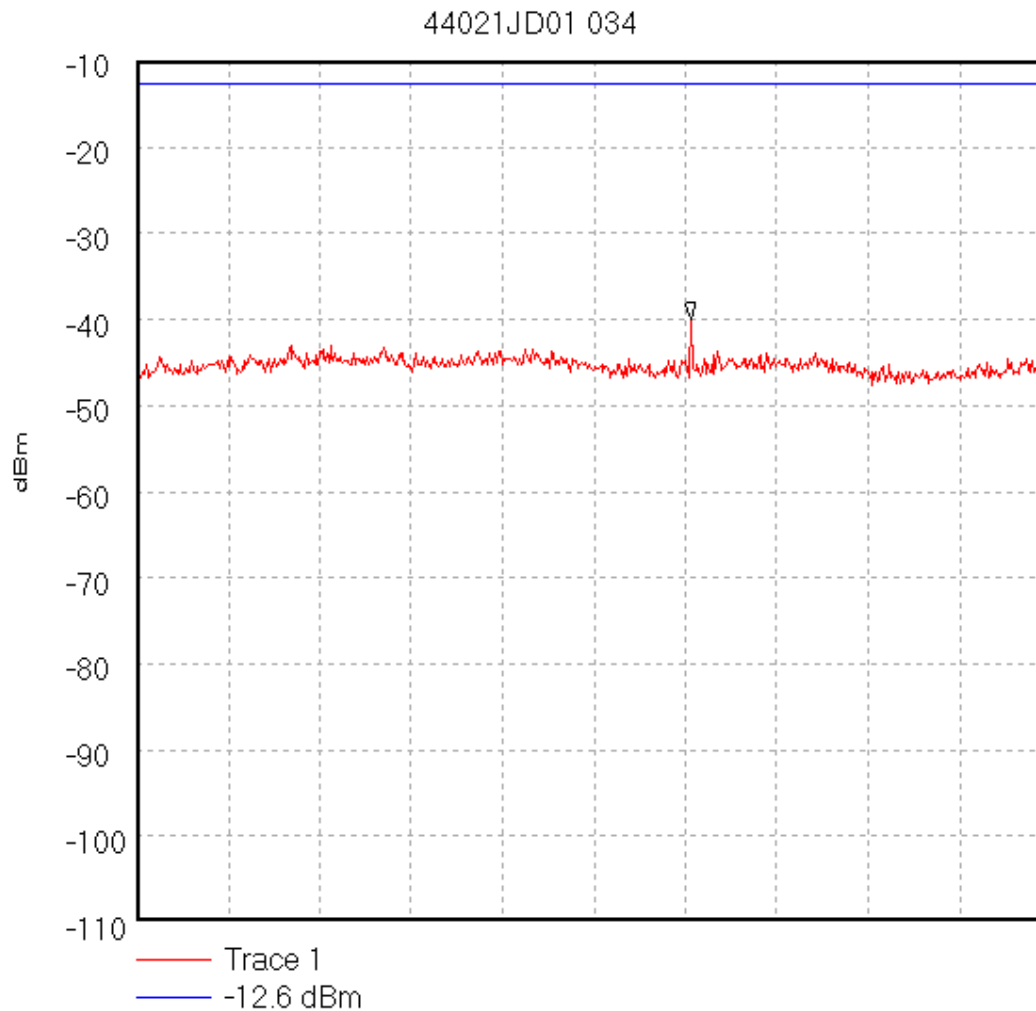
Display Line: -12.6 dBm;

29/11/02 14:17:56

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\034Conducted Antenna Port Spurious Emissions.IMEI:-004400/12/166777/6. Operating Condition :- Top Channel. FCC Part 24.238

Start 2.0 GHz; Stop 5.0 GHz

Ref -10 dBm; Ref Offset 35.0 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 60.0 mS

Peak 3.82 GHz, -40.0 dBm

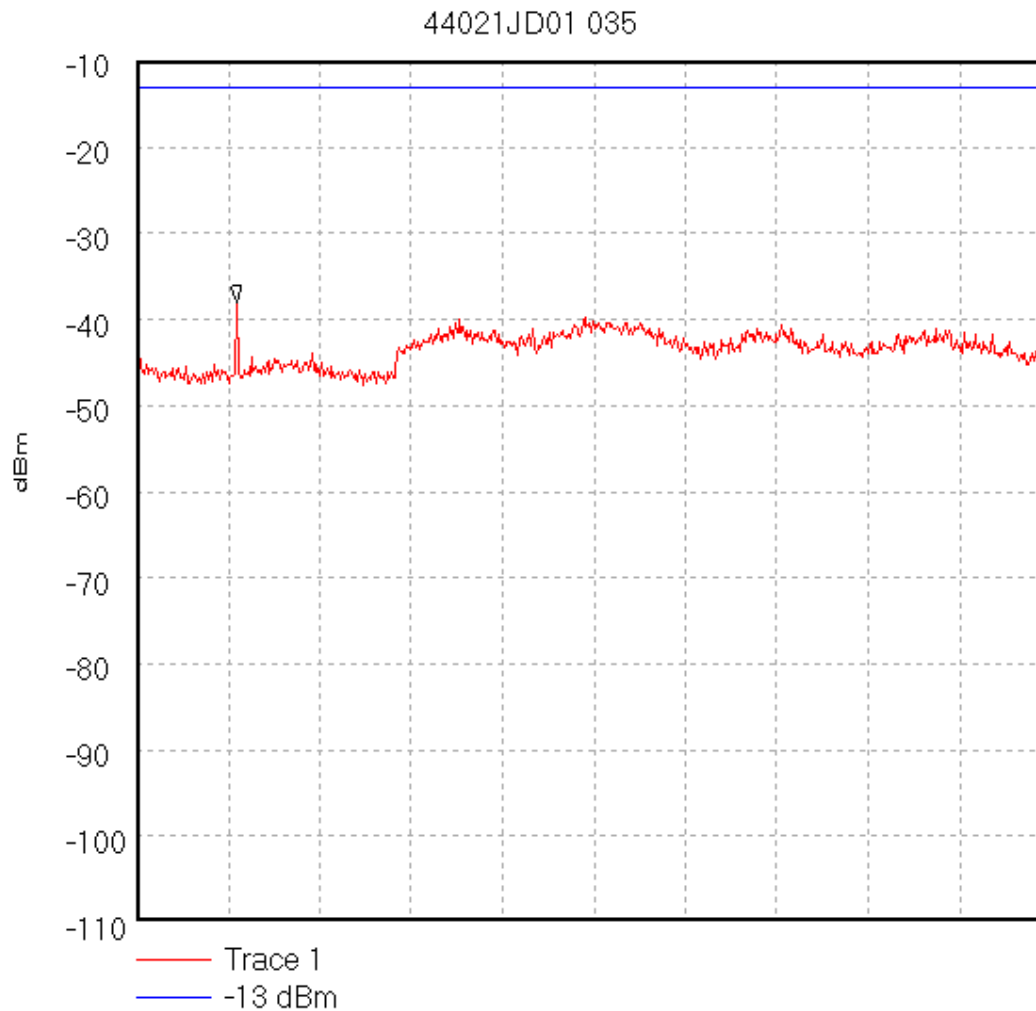
Display Line: -12.6 dBm;

29/11/02 14:19:03

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\035Conducted Antenna Port Spurious Emissions.IMEI:-004400/12/166777/6. Operating Condition :- Bottom Channel. FCC Part 24.238

Start 5.0 GHz; Stop 10.0 GHz

Ref -10 dBm; Ref Offset 35.0 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 60.0 mS

Peak 5.55 GHz, -38.0 dBm

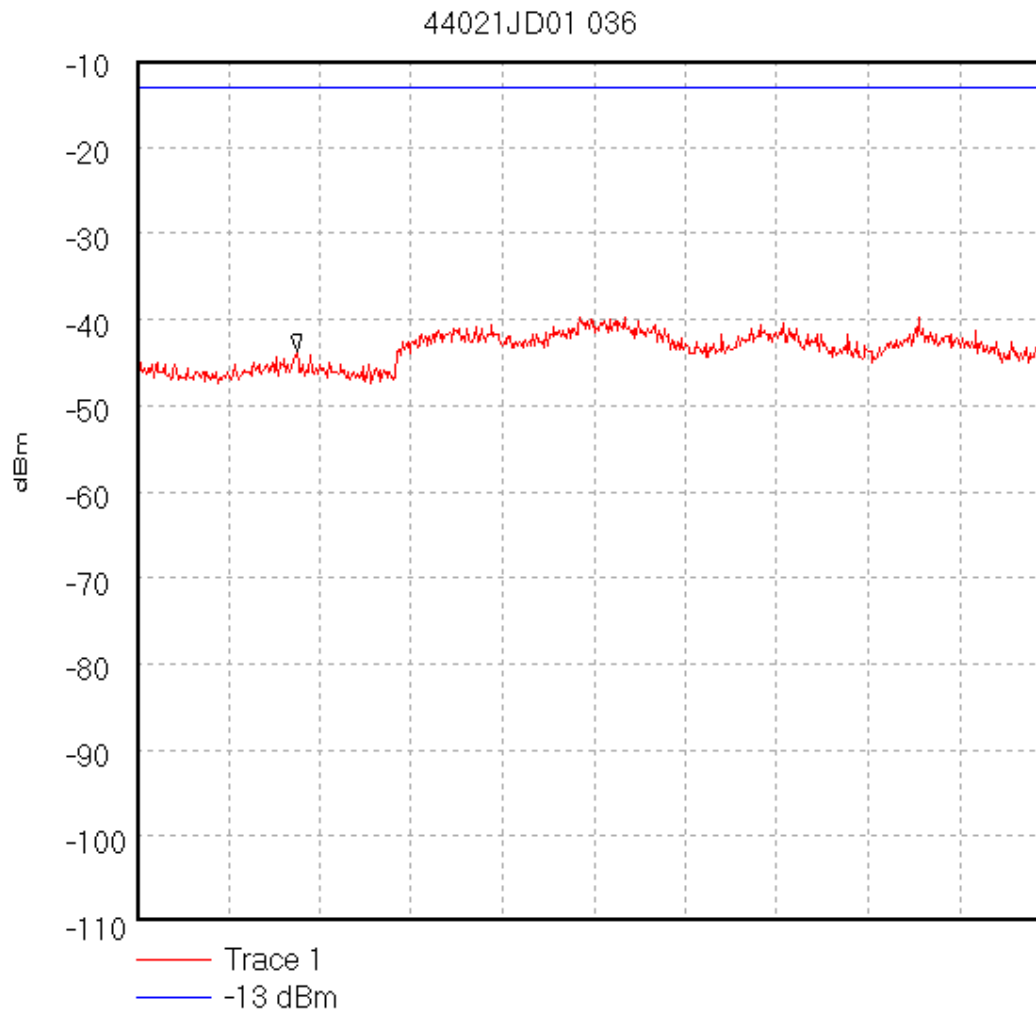
Display Line: -13 dBm;

29/11/02 14:28:34

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\036Conducted Antenna Port Spurious Emissions.IMEI:-004400/12/166777/6. Operating Condition :- Middle Channel. FCC Part 24.238

Start 5.0 GHz; Stop 10.0 GHz

Ref -10 dBm; Ref Offset 35.0 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 60.0 mS

Marker 5.875 GHz, -43.67 dBm

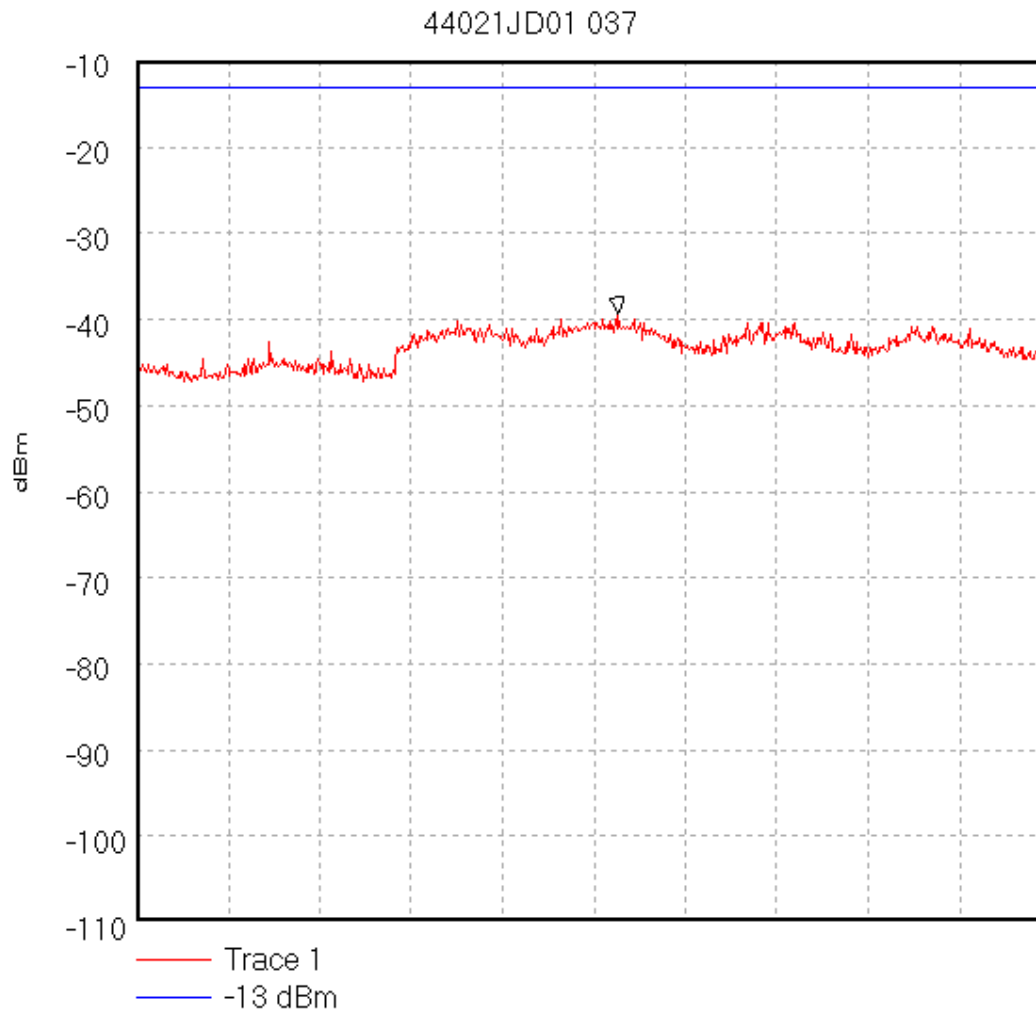
Display Line: -13 dBm;

29/11/02 15:14:05

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\037Conducted Antenna Port Spurious Emissions.IMEI:-004400/12/166777/6. Operating Condition :- Middle Channel. FCC Part 24.238

Start 5.0 GHz; Stop 10.0 GHz

Ref -10 dBm; Ref Offset 35.0 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 60.0 mS

Peak 7.633333333 GHz, -39.33 dBm

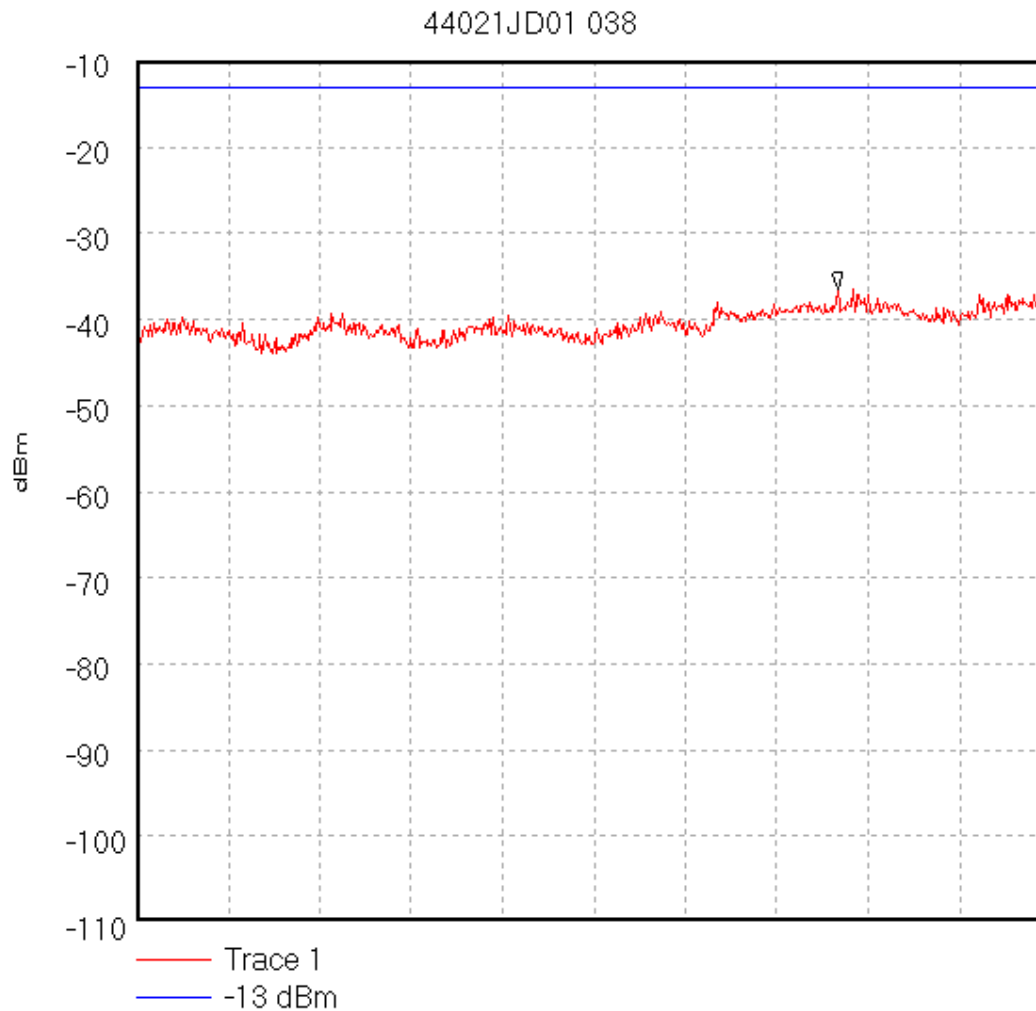
Display Line: -13 dBm;

29/11/02 15:18:08

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\038Conducted Antenna Port Spurious Emissions.IMEI:-004400/12/166777/6. Operating Condition :- Bottom Channel. FCC Part 24.238

Start 10.0 GHz; Stop 15.0 GHz

Ref -10 dBm; Ref Offset 36.4 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 100.0 mS

Peak 13.833333333 GHz, -36.5 dBm

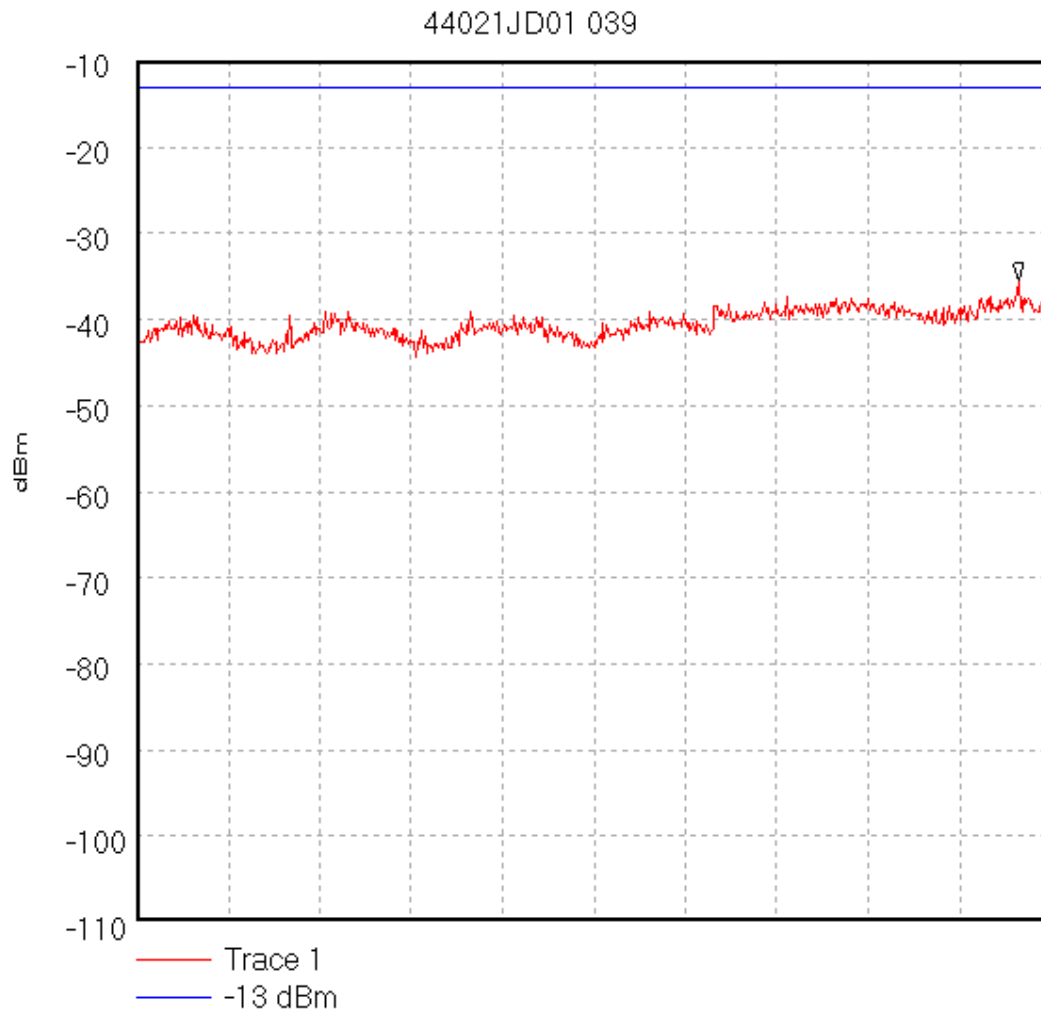
Display Line: -13 dBm;

29/11/02 15:24:34

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\039Conducted Antenna Port Spurious Emissions.IMEI:-004400/12/166777/6. Operating Condition :- Middle Channel. FCC Part 24.238

Start 10.0 GHz; Stop 15.0 GHz

Ref -10 dBm; Ref Offset 36.4 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 100.0 mS

Peak 14.825 GHz, -35.5 dBm

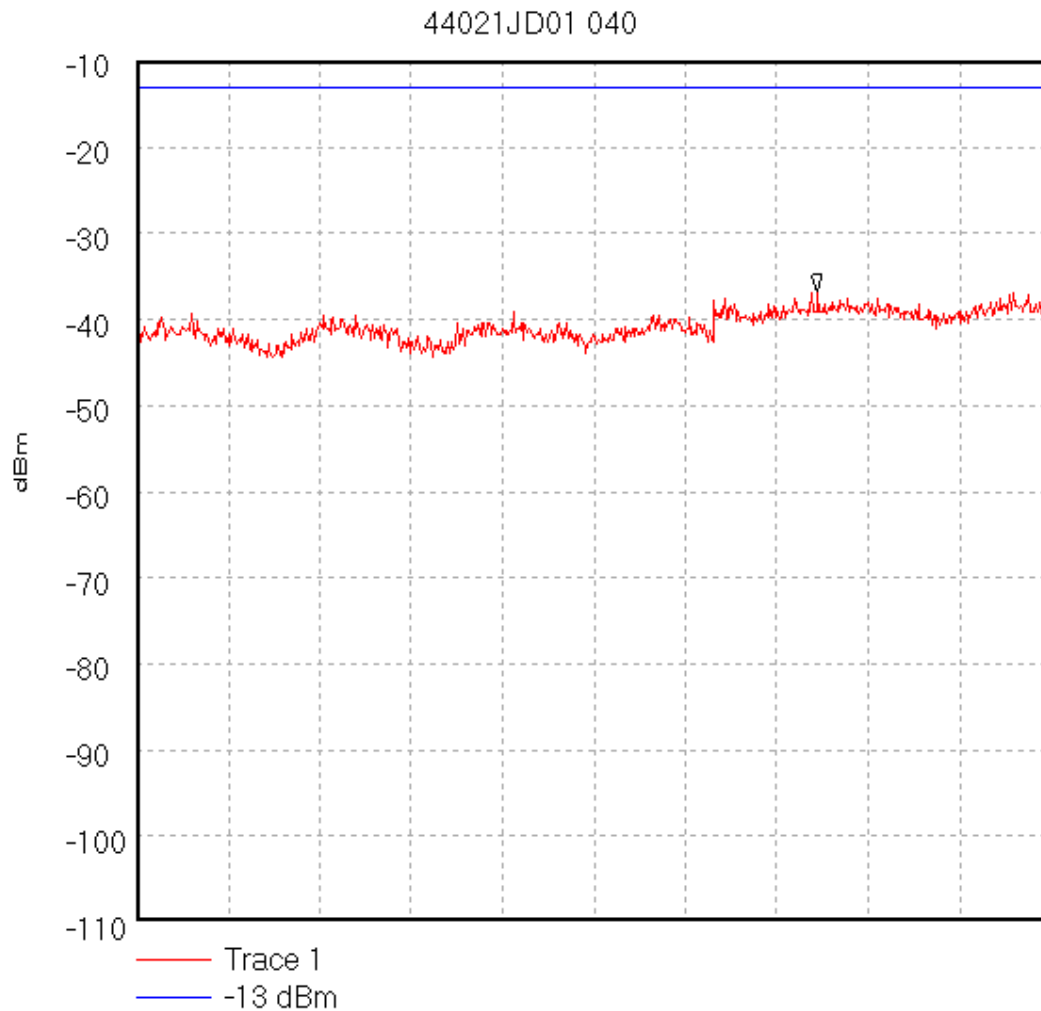
Display Line: -13 dBm;

29/11/02 15:25:29

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\040Conducted Antenna Port Spurious Emissions.IMEI:-004400/12/166777/6. Operating Condition :- Top Channel. FCC Part 24.238

Start 10.0 GHz; Stop 15.0 GHz

Ref -10 dBm; Ref Offset 36.4 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 100.0 mS

Peak 13.725 GHz, -36.83 dBm

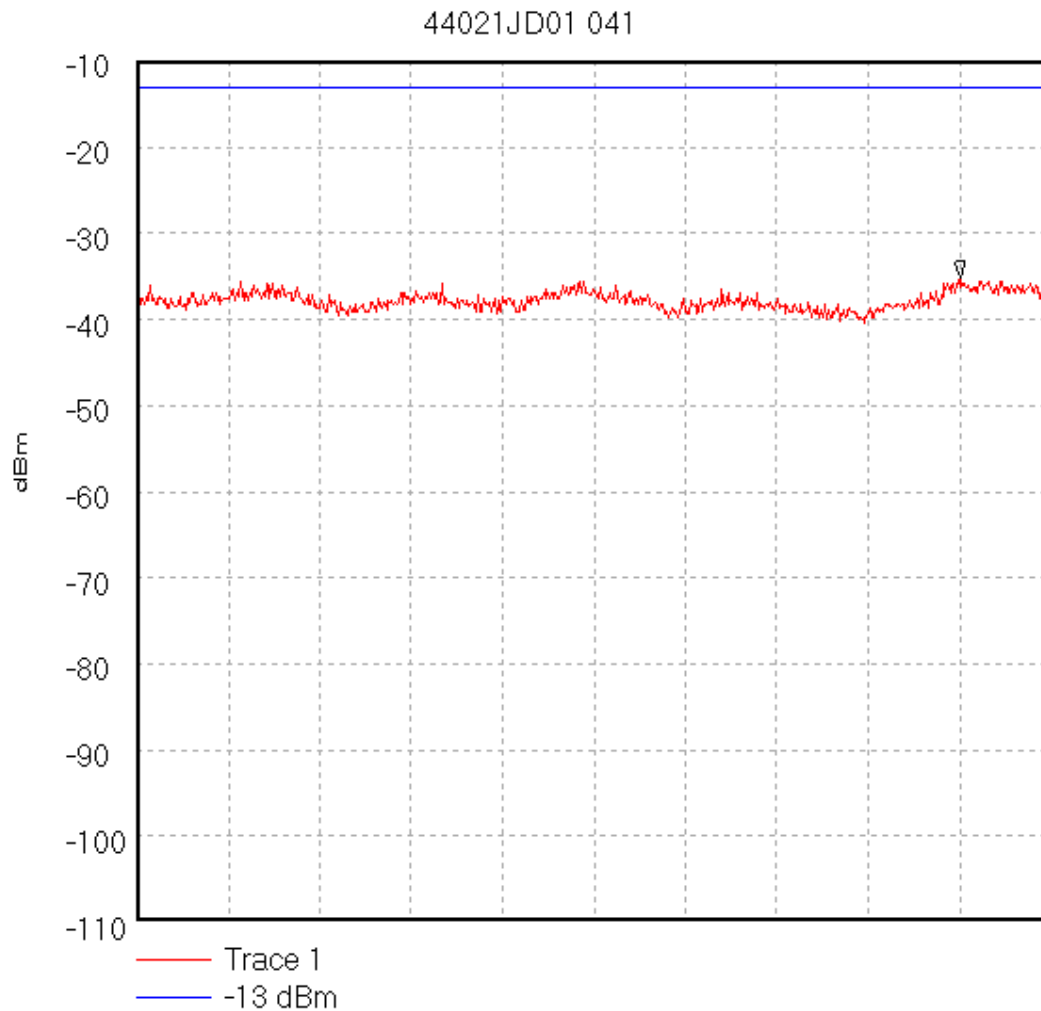
Display Line: -13 dBm;

29/11/02 15:26:08

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\041Conducted Antenna Port Spurious Emissions.IMEI:-004400/12/166777/6. Operating Condition :- Top Channel. FCC Part 24.238

Start 15.0 GHz; Stop 20.0 GHz

Ref -10 dBm; Ref Offset 37.8 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 100.0 mS

Peak 19.508333333 GHz, -35.17 dBm

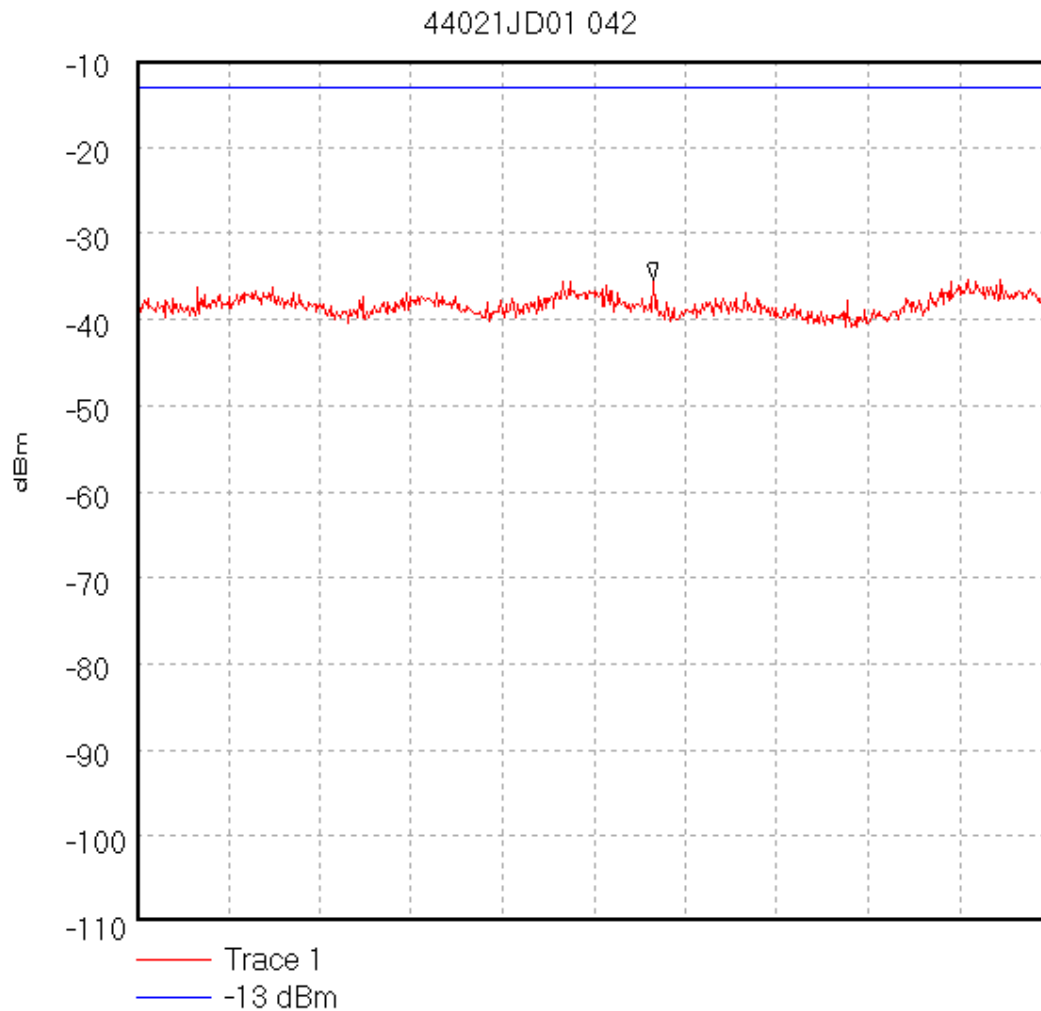
Display Line: -13 dBm;

29/11/02 15:27:19

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\042Conducted Antenna Port Spurious Emissions.IMEI:-004400/12/166777/6. Operating Condition :- Middle Channel. FCC Part 24.238

Start 15.0 GHz; Stop 20.0 GHz

Ref -10 dBm; Ref Offset 37.8 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 100.0 mS

Peak 17.825 GHz, -35.33 dBm

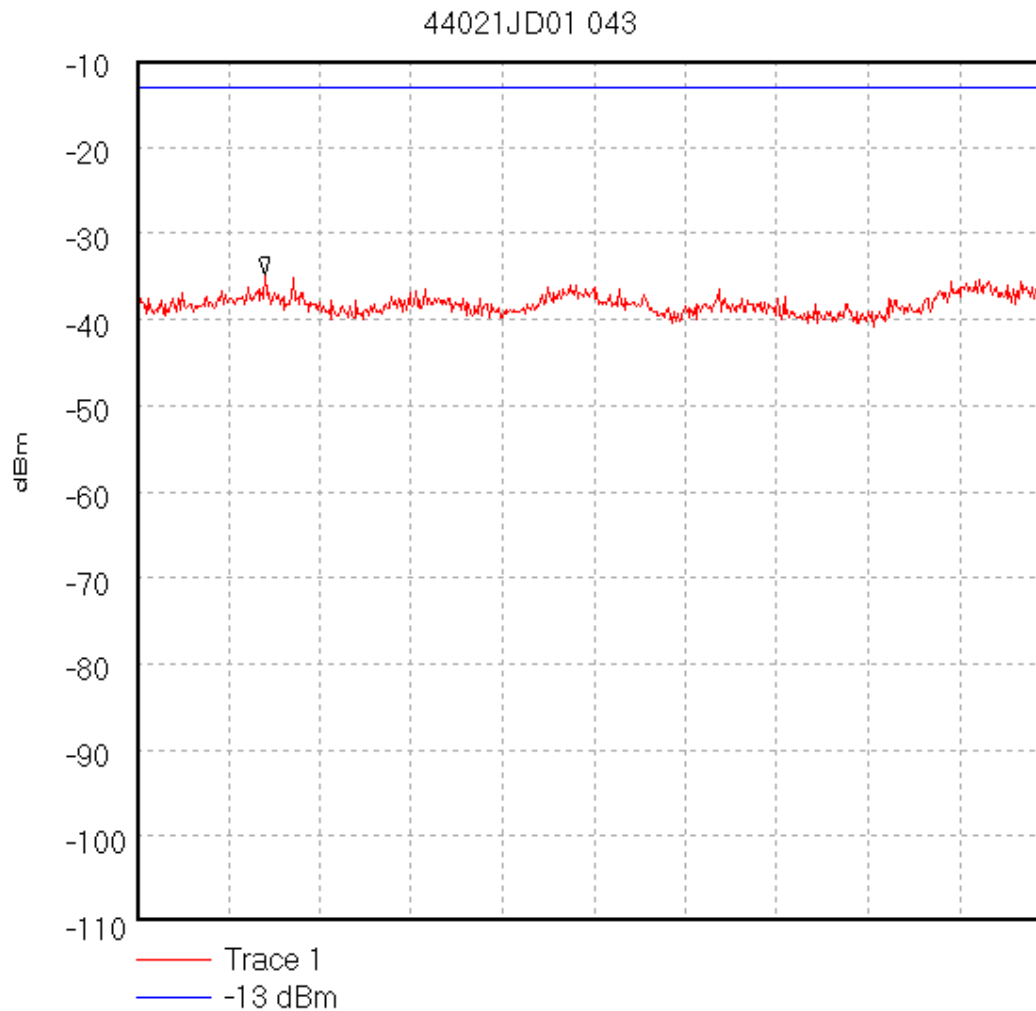
Display Line: -13 dBm;

29/11/02 15:27:46

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\043Conducted Antenna Port Spurious Emissions.IMEI:-004400/12/166777/6. Operating Condition :- Bottom Channel. FCC Part 24.238

Start 15.0 GHz; Stop 20.0 GHz

Ref -10 dBm; Ref Offset 37.8 dB; 10 dB/div

RBW 1.0 MHz; VBW 1.0 MHz; Att 0 dB; Swp 100.0 mS

Peak 15.7 GHz, -34.83 dBm

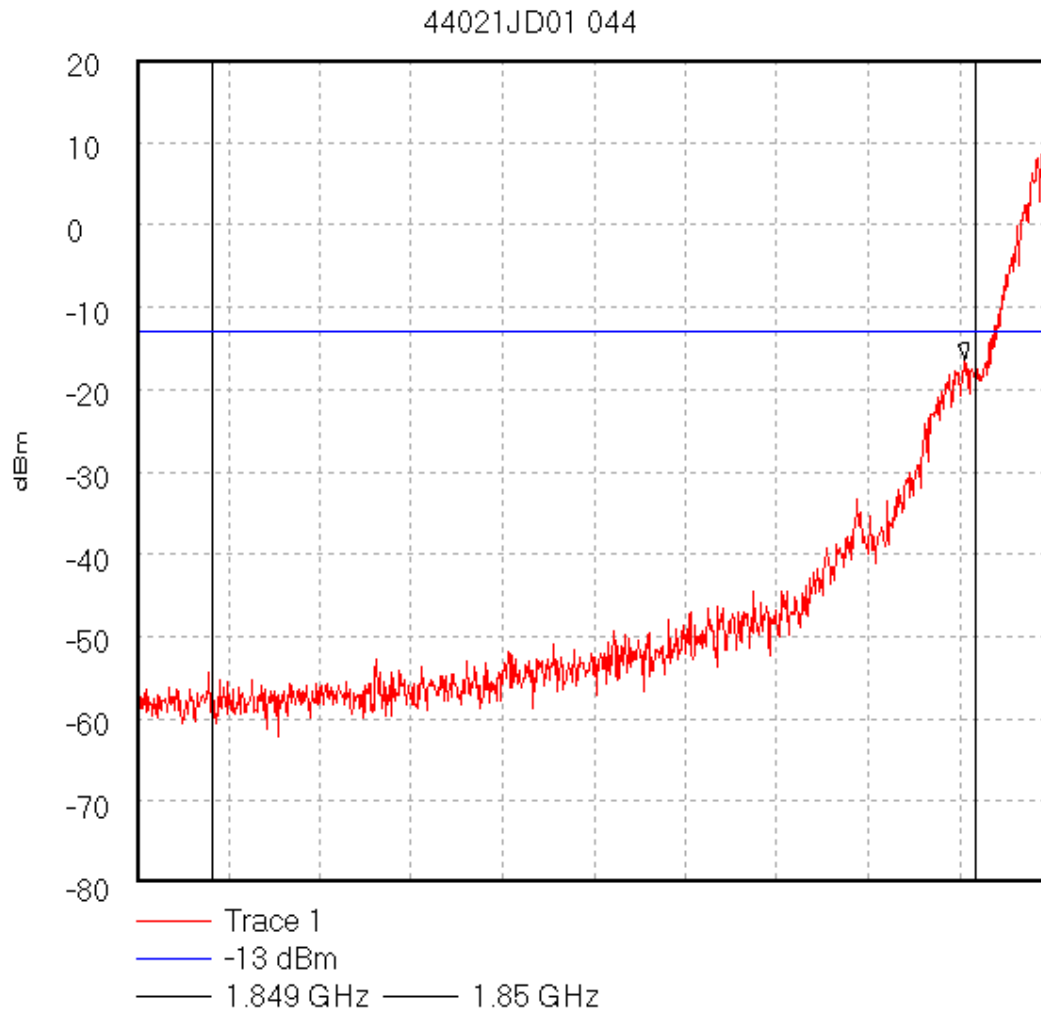
Display Line: -13 dBm;

29/11/02 15:28:37

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\044Conducted Band Edge.IMEI:-004400/12/166777/6. Operating Condition :- Bottom Channel - Bandedge.FCC Part 24.238

Start 1.8489 GHz; Stop 1.8501 GHz

Ref 20 dBm; Ref Offset 41.9 dB; 10 dB/div

RBW 3.0 kHz; VBW 3.0 kHz; Att 10 dB; Swp 400.0 mS

Marker 1.849987 GHz, -16.36 dBm

Display Line: -13 dBm;

29/11/02 15:49:33

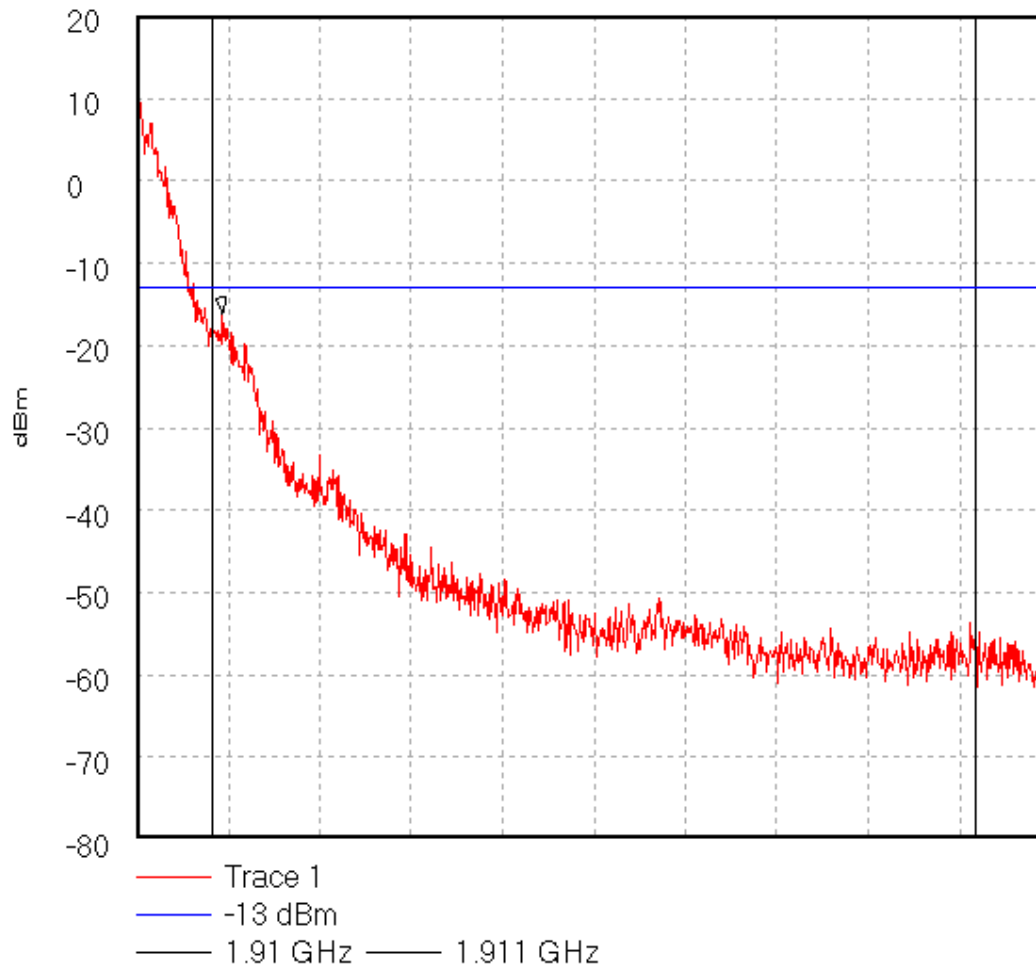
Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\045Conducted Band Edge.IMEI:-004400/12/166777/6. Operating Condition :- Top Channel - Bandedge.FCC Part 24.238

44021JD01 045



Start 1.9099 GHz; Stop 1.911 GHz

Ref 20 dBm; Ref Offset 41.8 dB; 10 dB/div

RBW 3.0 kHz; VBW 3.0 kHz; Att 10 dB; Swp 400.0 mS

Marker 1.910012 GHz, -16.13 dBm

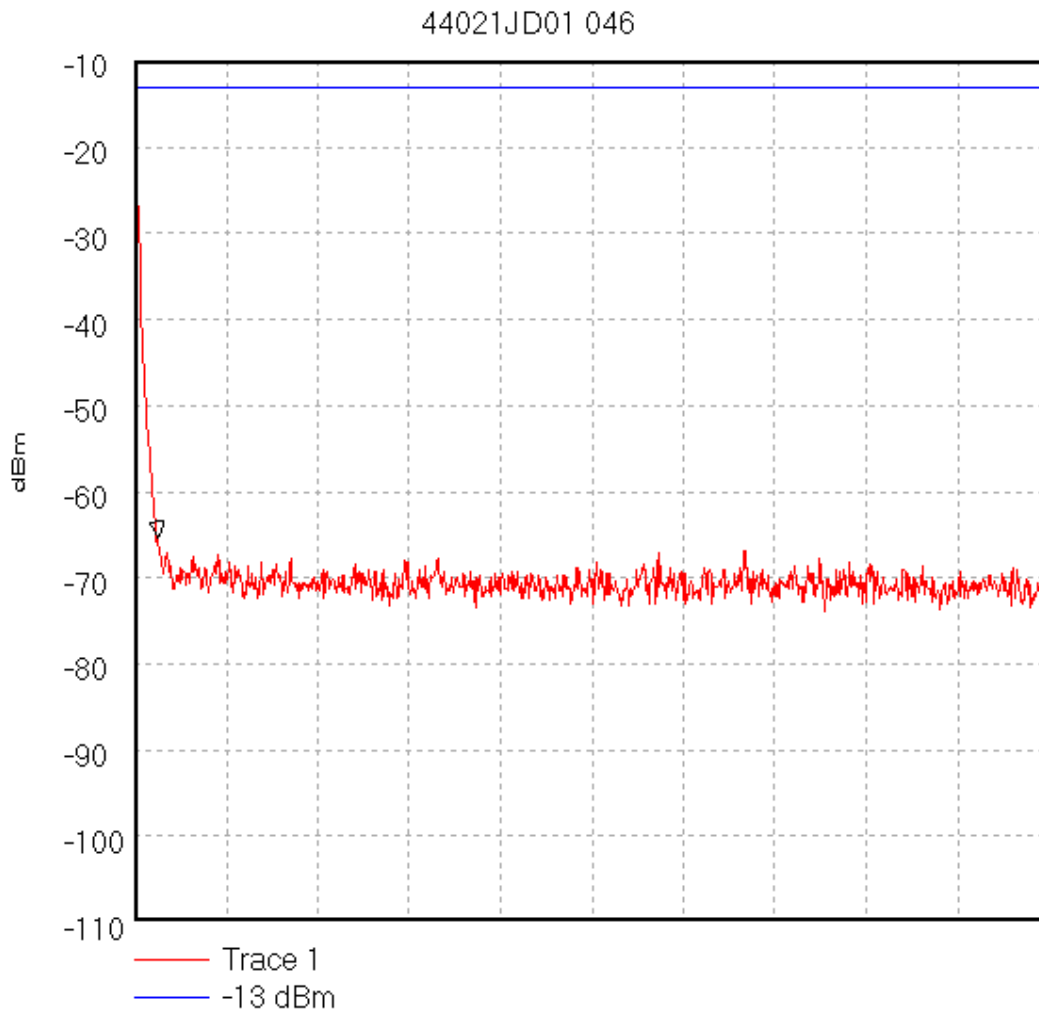
Display Line: -13 dBm;

29/11/02 15:52:20

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\046Conducted Antenna Port Spurious EmissionsIMEI:-004400/12/166777/6. Operating Condition :- Top Channel. FCC Part 24.238

Start 9.0 kHz; Stop 1.0 MHz

Ref -10 dBm; Ref Offset 41.8 dB; 10 dB/div

RBW 10.0 kHz; VBW 10.0 kHz; Att 0 dB; Swp 80.0 mS

Peak 34.32555 kHz, -65.38 dBm

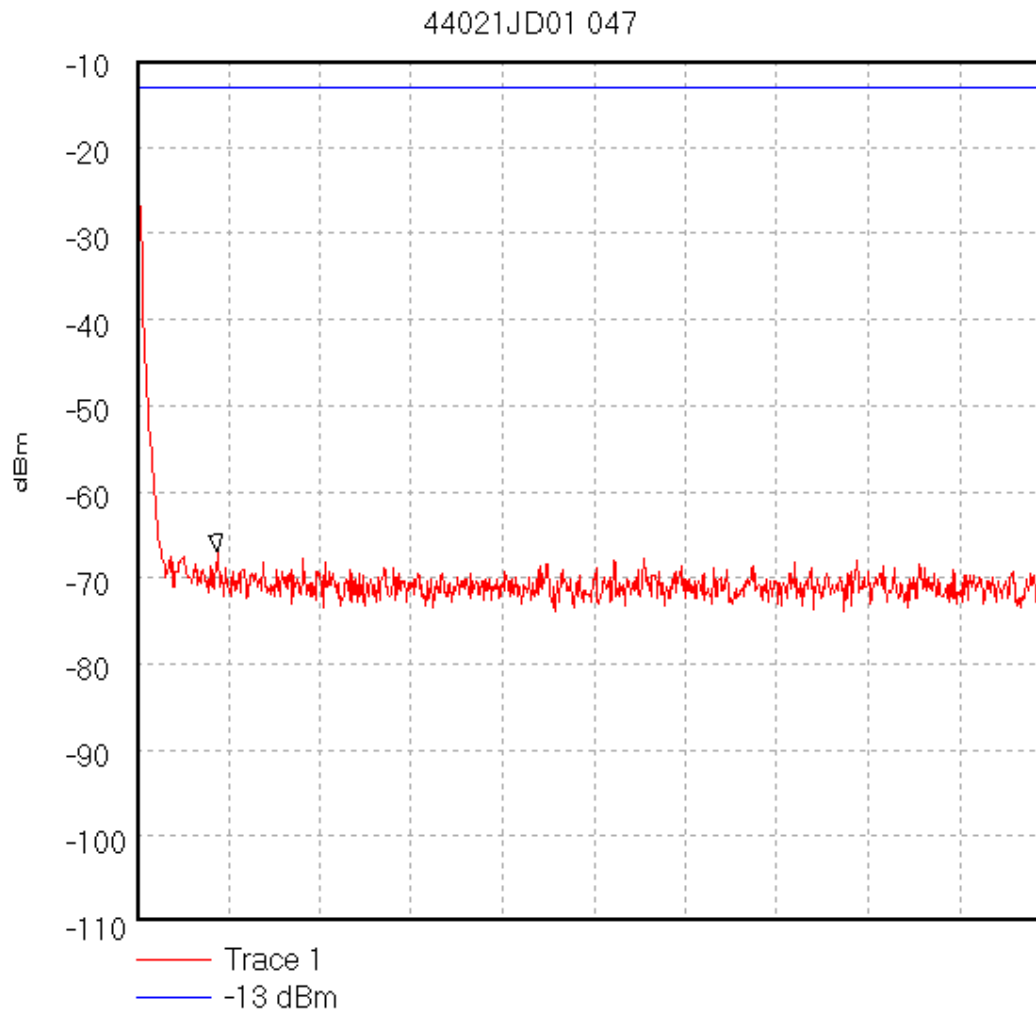
Display Line: -13 dBm; ; Limit Test Passed

29/11/02 15:56:13

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\047Conducted Antenna Port Spurious EmissionsIMEI:-004400/12/166777/6. Operating Condition :- Middle Channel. FCC Part 24.238

Start 9.0 kHz; Stop 1.0 MHz

Ref -10 dBm; Ref Offset 41.8 dB; 10 dB/div

RBW 10.0 kHz; VBW 10.0 kHz; Att 0 dB; Swp 80.0 mS

Peak 95.98777 kHz, -66.98 dBm

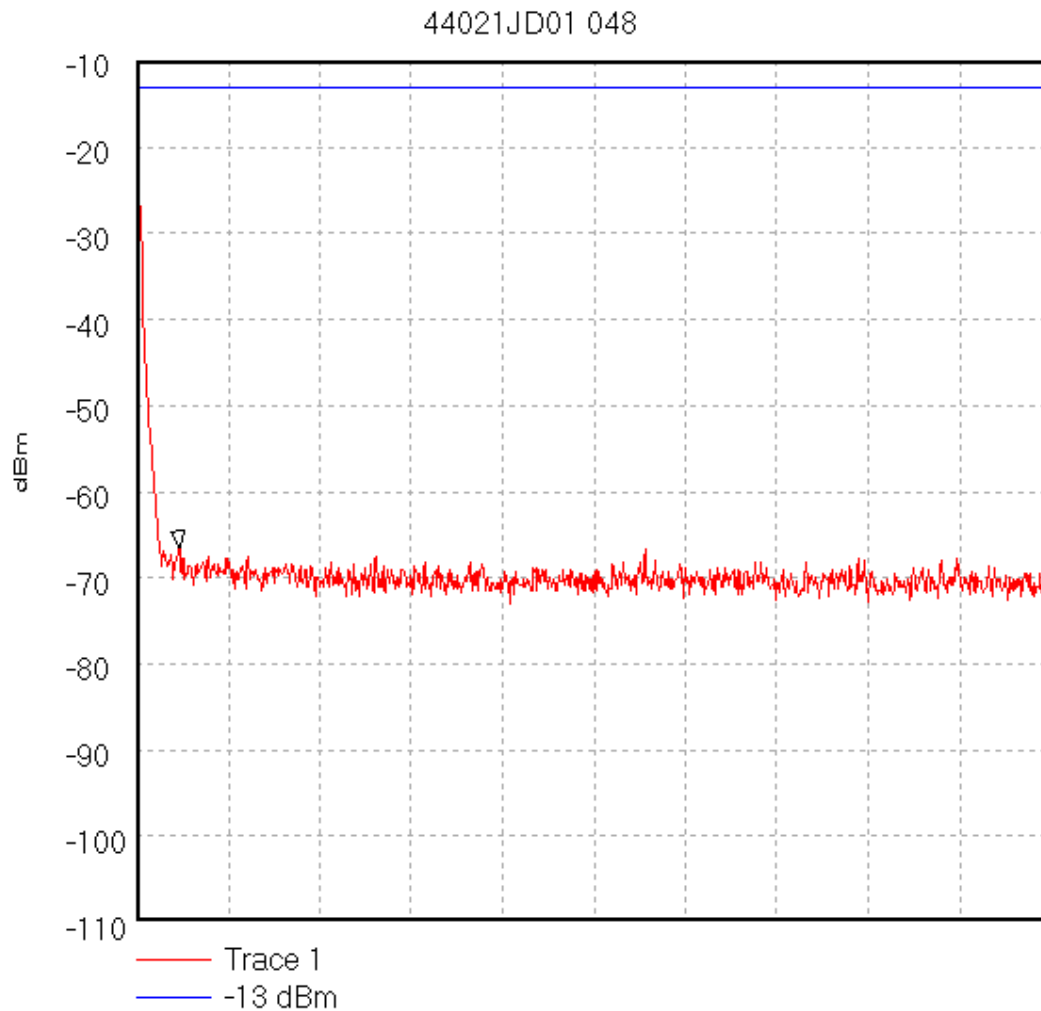
Display Line: -13 dBm; ; Limit Test Passed

29/11/02 15:56:54

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

GPH\44021JD01\048Conducted Antenna Port Spurious EmissionsIMEI:-004400/12/166777/6. Operating Condition :- Bottom Channel. FCC Part 24.238

Start 9.0 kHz; Stop 1.0 MHz

Ref -10 dBm; Ref Offset 41.8 dB; 10 dB/div

RBW 10.0 kHz; VBW 10.0 kHz; Att 0 dB; Swp 80.0 mS

Peak 55.24666 kHz, -66.57 dBm

Display Line: -13 dBm; ; Limit Test Passed

29/11/02 15:57:33

Test Of: Nokia Corporation..**Nokia 7250 PCS Mobile Phone with FM Radio****To: FCC Part 24: 2001**

Appendix 5. Photographs of EUT

This appendix contains the following photographs

Photo Reference Number	Title
PHT\44021JD01\001	Front View of Conducted Emissions
PHT\44021JD01\002	Side View of Conducted Emissions
PHT\44021JD01\003	Front View of Radiated Emissions
PHT\44021JD01\004	Side View of Radiated Emissions

These pages are not included in the total number of pages for this report.

RADIO FREQUENCY INVESTIGATION LTD.

TEST REPORT

Conformance Testing Department

S.No: RFI/MPTB1/RP44021JD01A

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Issue Date: 15 Janaury 2003

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001

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Conformance Testing Department

Photograph Section

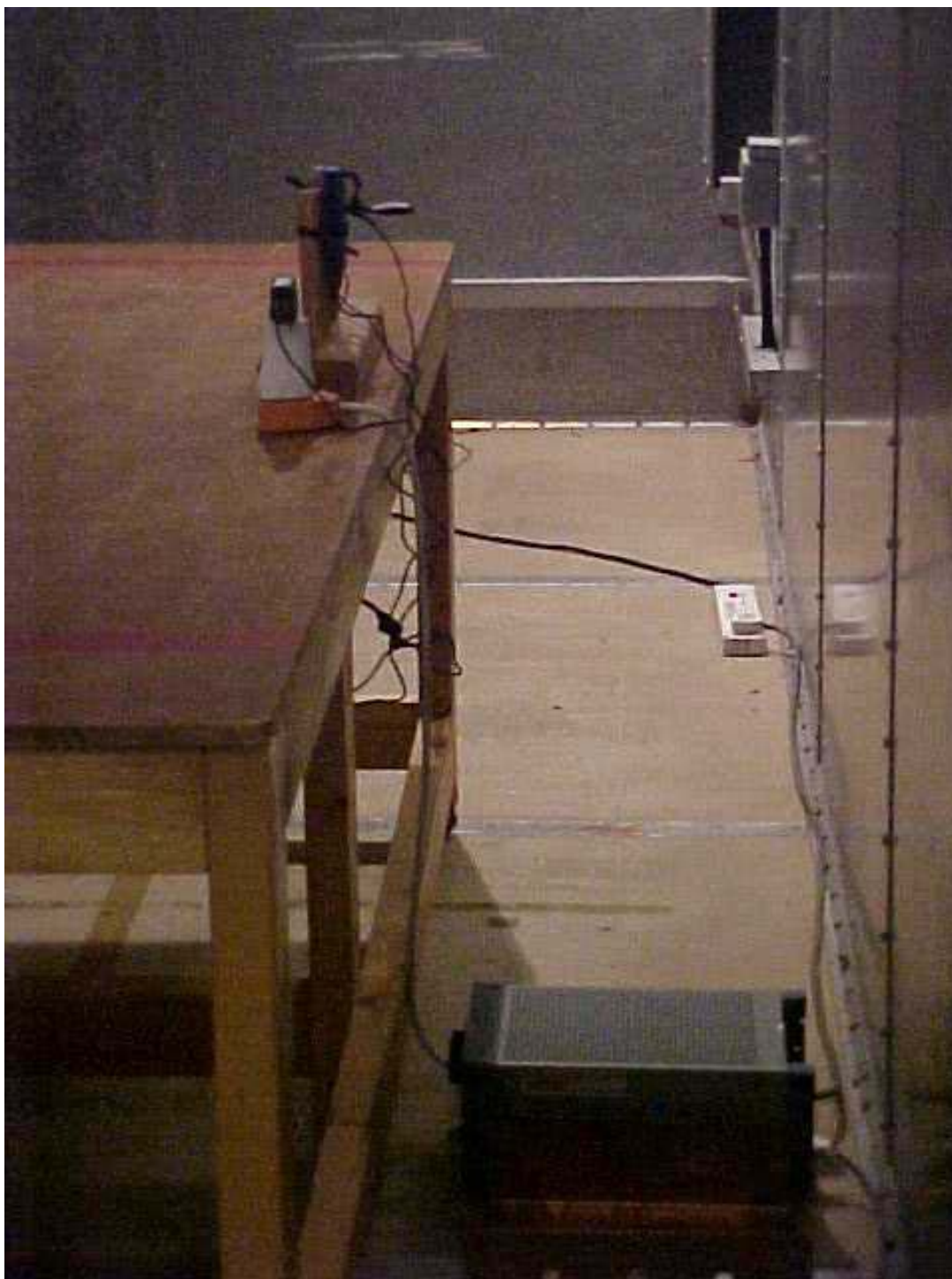
S.No: RFI/MPTB1/RP44021JD01A

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001, FCC Part 15: 2001 and Part 2: 2001

PHT\44021JD01\001 Front View of Conducted Emissions



RADIO FREQUENCY INVESTIGATION LTD.

TEST REPORT

Conformance Testing Department

Photograph Section

S.No: RFI/MPTB1/RP44021JD01A

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001, FCC Part 15: 2001 and Part 2: 2001

PHT\44021JD01\002 Side View of Conducted Emissions



RADIO FREQUENCY INVESTIGATION LTD.

TEST REPORT

Conformance Testing Department

Photograph Section

S.No: RFI/MPTB1/RP44021JD01A

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001, FCC Part 15: 2001 and Part 2: 2001

PHT\44021JD01\003 Front View of Radiated Emissions



RADIO FREQUENCY INVESTIGATION LTD.

TEST REPORT

Conformance Testing Department

Photograph Section

S.No: RFI/MPTB1/RP44021JD01A

Test Of: Nokia Corporation..

Nokia 7250 PCS Mobile Phone with FM Radio

To: FCC Part 24: 2001, FCC Part 15: 2001 and Part 2: 2001

PHT\44021JD01\004 Side View of Radiated Emissions

