ENGINEERING TEST REPORT

ON:
KYOCERA IRIDIUM SATELLITE HANDSET
MODELS: SS-66K AND SD-66K

IN ACCORDANCE WITH:
FCC PART 25
MOBILE SATELLITE HANDSET

PROJECT NO.: 8R00863

TESTED FOR:

KYOCERA CORPORATION
YOKOHAMA OFFICE
2-1-1, KAGAHARA, TSUZUKI-KU
YOKAHAMA-SHI 224 JAPAN

TESTED BY:

KTL ARNHEM INC.
UTRECHTSEWEG 310
6800 JA ARNHEM
THE NETHERLANDS

DATE: 1 September, 1998

This document contains 107 pages including this one.

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Occupied Bandwidth
Spurious Emissions at Antenna Terminals
Field Strength of Spurious
Frequency Stability
Protection of Radionavigation/Satellite Service

EQUIPMENT: **KYOCERA IRIDIUM SATELLITE HANDSET**
MODELS: SS-66K AND SD-66K

Section 1. Summary of Test Results

Manufacturer: Kyocera Corporation

Model No.: SS-66K*

Serial No.: AS806000011

General: **All measurements are traceable to national standards.**

NOTE: Model SD-66K, also named "Iridium Adapter", is considered a variant model of the SS-66K due to the fact that it uses a different kind of keypad.

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 25.

☒ New Submission ☒ Production Unit

☐ Class II Permissive Change ☐ Pre-Production Unit

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE. NONE
See " Summary of Test Data".

TEST CONDUCTED BY: ing. P.A. Suringa DATE: 4 August, 1998 .
P. A. Suringa, Senior Engineer radio/EMC, KTL Arnhem

REPORT PREPARED BY: _____ DATE: 4 Sept. 1998
Tom Tidwell, Wireless Group Manager, KTL Ottawa

Section 1. Summary of Test Results

Manufacturer: Kyocera Corporation

Model No.: SS-66K*

Serial No.: AS806000011

General: **All measurements are traceable to national standards.**

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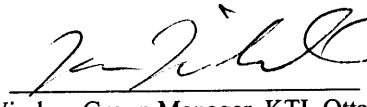
THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE. NONE
See " Summary of Test Data".

TEST CONDUCTED BY: ing. P.A. Suringa DATE: 4 August, 1998 .
P. A. Suringa, Senior Engineer radio/EMC, KTL Arnhem

REPORT PREPARED BY:  DATE: 4 Sept. 1998
Tom Tidwell, Wireless Group Manager, KTL Ottawa

Summary Of Test Data

NAME OF TEST	PARA. NO.	SPEC.	MEAS.	RESULT
RF Power Output	25.204(a)	+40dB(W/4kHz)	-10dB(W/4kHz)	Complies
Occupied Bandwidth	25.202(f)	Mask	See Graphs	Complies
Spurious Emissions at Antenna Terminals	25.202(f)	-13 dBm	<-25 dBm	Complies
Field Strength of Spurious Emissions	25.202(f)	-13 dBm E.I.R.P.	-31.3 dBm E.I.R.P.	Complies
Frequency Stability	25.202(d)	0.001 %	0.51ppm (0.000051%)	Complies
Protection of Radionavigation/Satellite Service	25.213(b)	-80 dB(W/600 Hz)	-105.5 dB(W/600 Hz	Complies

Test Conditions:

Antenna Conducted Measurements
Temperature: 23 °C
Humidity: 55 %

Radiated Measurements
Temperature: 22 °C
Humidity: 75 %

Tests were performed at the following locations:

Radiated Measurements:
- Tüv Product Service Ohtama
3415 Furuseki Kamikuishiki-Mura
Nishi-Yatsushiro-Gun Yamanashi 409-3712
Japan

Conducted Measurements:
-Kyocera Corporation
Communication and Information Systems Group
2-1-1 Kagahara, Tsuzuk-ku
Yokohama-Shi, Kanagawa 224-8502
Japan

Section 2. General Equipment Specification

Supply Voltage Input:		7.4 Vdc
Frequency Range:	**Subband 18**	1621.666667 - 1622.000000 MHz
	Subband 24	1623.666667 - 1624.000000 MHz
	Subband 30	1625.666667 - 1626.000000 MHz

Authorized Bandwidth:		50 kHz	
Type of Modulation and Emission Designator:	41K7Q7W	**TDMA** ☒	**FDMA** ☒
Output Impedance:		50 ohms	
Antenna Gain:		0 dBi	
E.I.R.P. Density(Rated):		-6.9 dB(W/4kHz)	
RF Output (Rated):		7 W (+20%, -40%)	

NOTE: For the purpose of testing, the sample was temporarily fitted with an external connector.

For all tests the transmitter was set to transmit at its highest output power (7W).

As the applicant specifies 0dBi gain for the antenna, the measured data shown in this report is only corrected for an external attenuation between the spectrum analyzer and the tested sample. The test data for maximum E.I.R.P. (Section 3) was additionally corrected for the required 4kHz bandwidth.

The test data for conducted measurements can be read directly in dBm E.I.R.P.

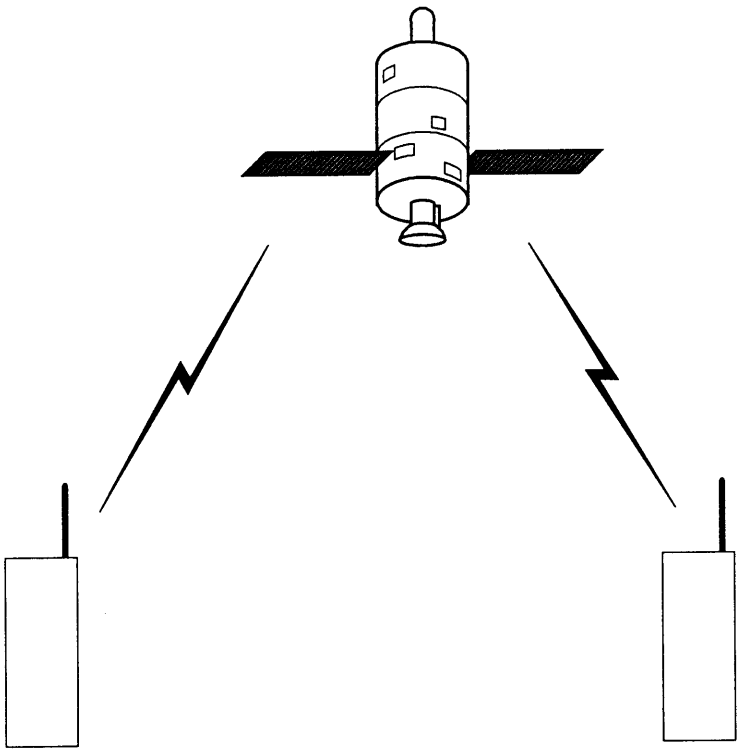
Description of Modifications For Class II Permissive Change

NOT APPLICABLE

Modifications Made During Testing

NOT APPLICABLE

System Diagram



Section 3. RF Power Output

NAME OF TEST: RF Power Output	PARA. NO.: 2.985

Test Results: Complies.

Measurement Data:

Maximum E.I.R.P. Density:	19.98	**dBm**
Maximum E.I.R.P. Density:	-10	**dB(W/4kHz)**

TYPE TEST ACCORDING TO TBR 41 Issue February 1998

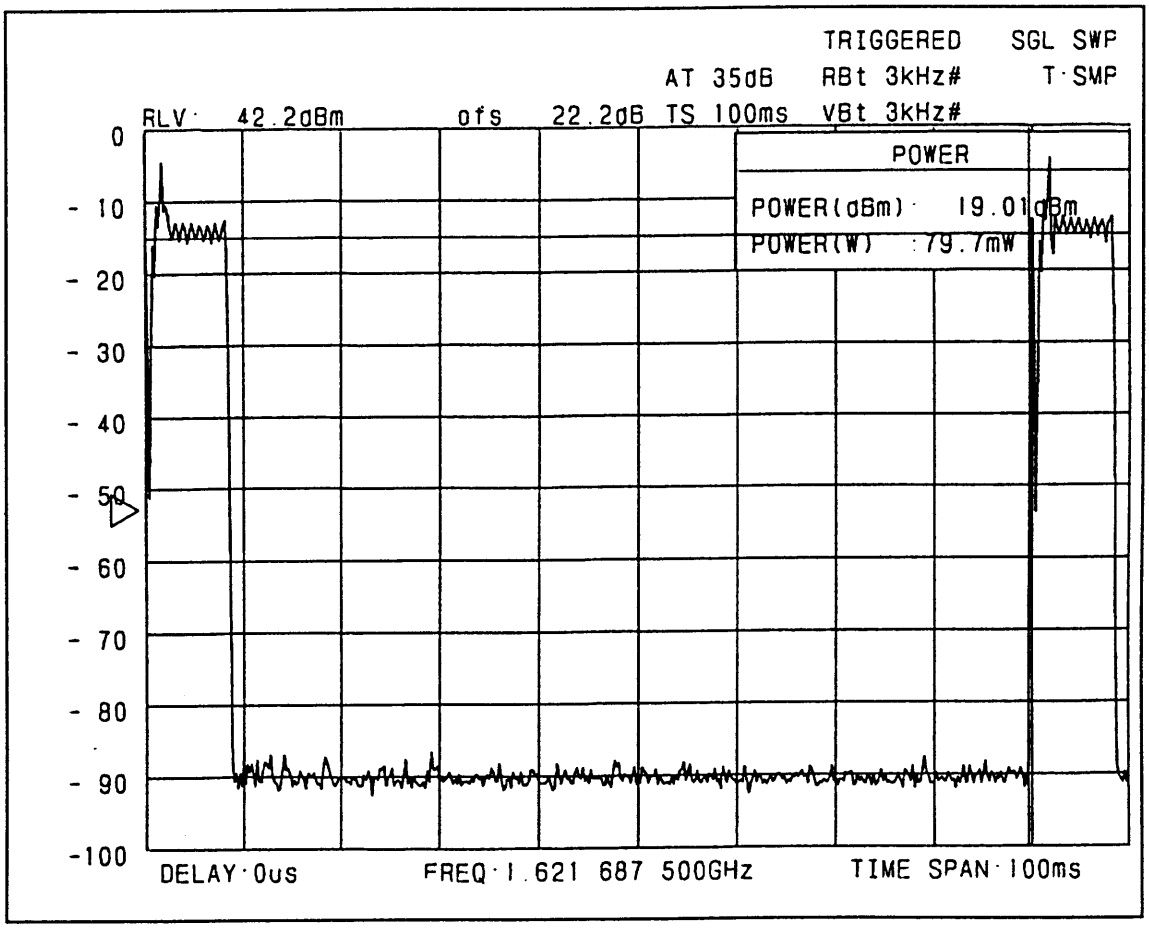
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER POWER DENSITY (Clause 7.4)

Lowest operating sub-band tested: 1621.6875 MHz (sub 18/ch. 1)

Method of measurement: conducted; mean



Measuring uncertainty	*1.50 dB*

LIMITS (Clause 7.3)	27 dBm EIRP/4kHz

Measuring equipment used: *1, 8, 13 (see list page 85).*

TYPE TEST ACCORDING TO TBR 41 Issue February 1998

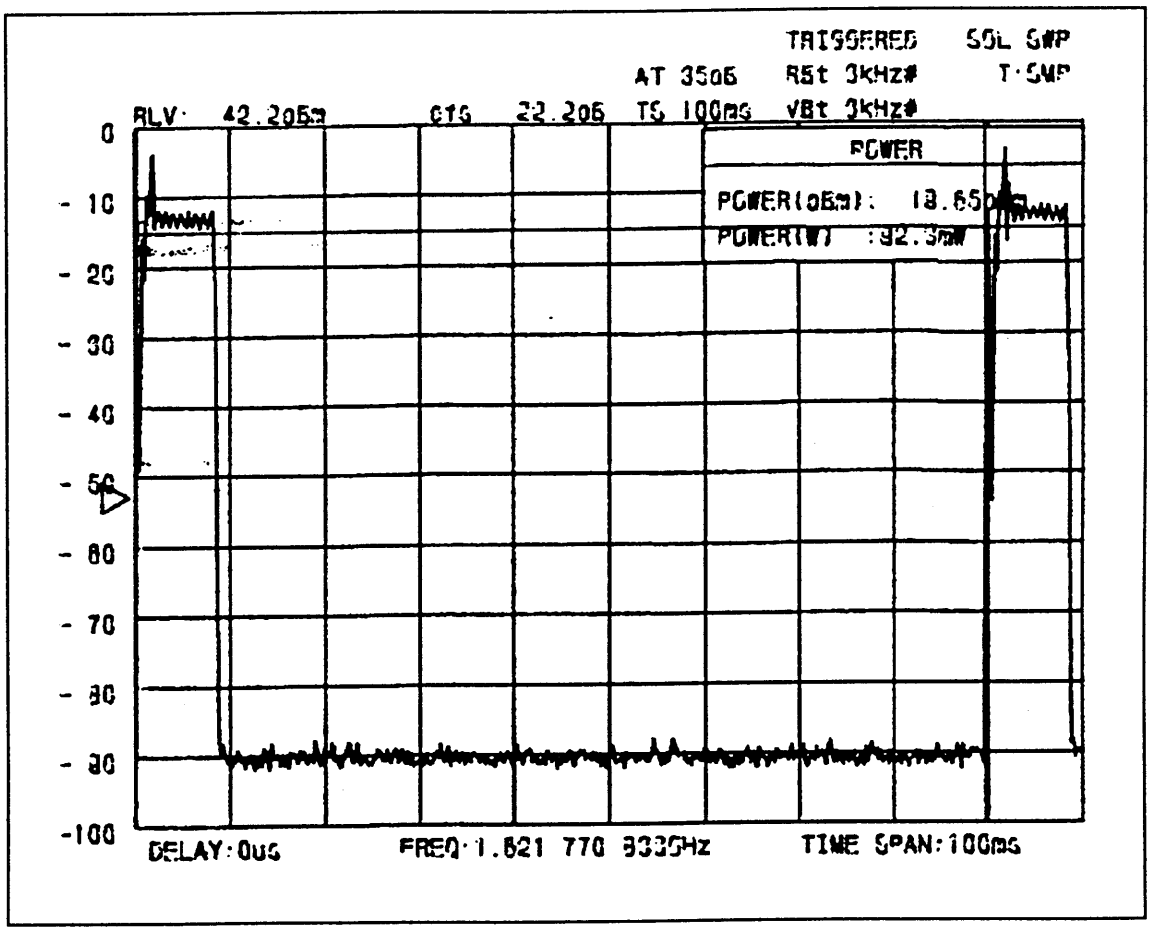
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER POWER DENSITY (Clause 7.4)

Lowest operating sub-band tested: 1621.7708 MHz (sub 18/ch. 3)

Method of measurement: conducted; mean



Measuring uncertainty	*1.50 dB*

LIMITS (Clause 7.3)	27 dBm EIRP/4kHz

Measuring equipment used: *1, 8, 13 (see list page 85).*

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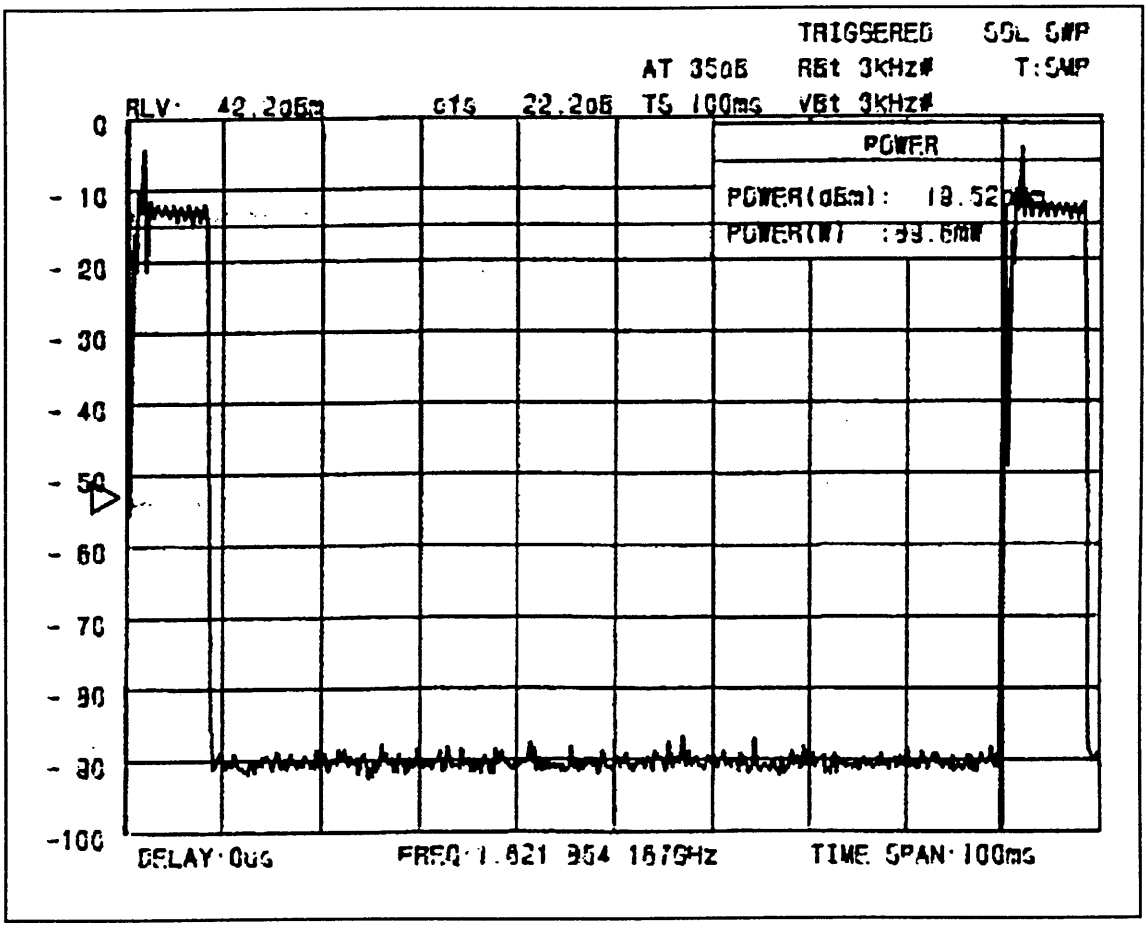
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER POWER DENSITY (Clause 7.4)

Lowest operating sub-band tested: 1621.8542 MHz (sub 18/ch. 5)

Method of measurement: conducted; mean



Measuring uncertainty	*1.50 dB*

LIMITS (Clause 7.3)	27 dBm EIRP/4kHz

Measuring equipment used: *1, 8, 13 (see list page 85).*

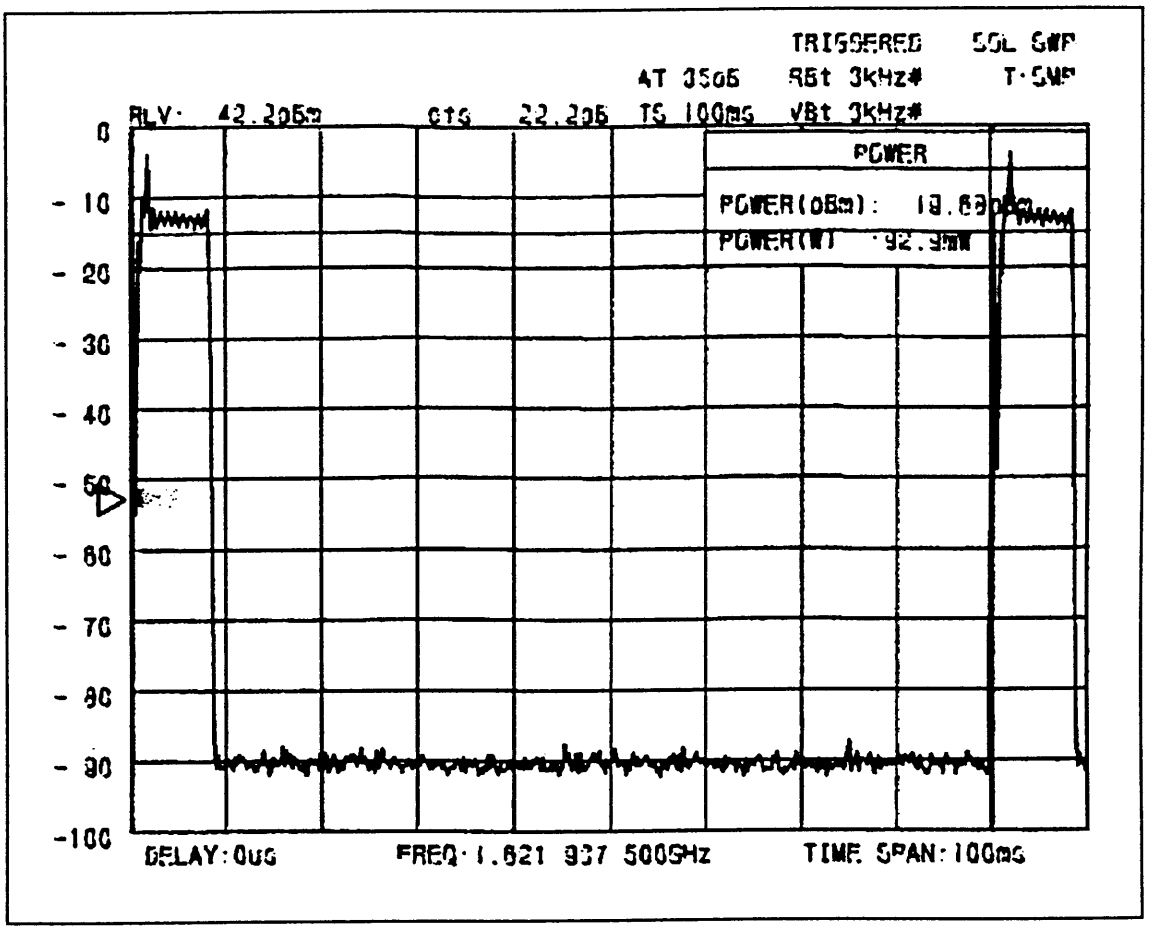
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER POWER DENSITY (Clause 7.4)

Lowest operating sub-band tested: 1621.9375 MHz (sub 18/ch. 7)

Method of measurement: conducted; mean



Measuring uncertainty	*1.50 dB*

LIMITS (Clause 7.3)	-27 dBm EIRP/4kHz

Measuring equipment used: *1, 8, 13 (see list page 85).*

TYPE TEST ACCORDING TO TBR 41 Issue February 1998

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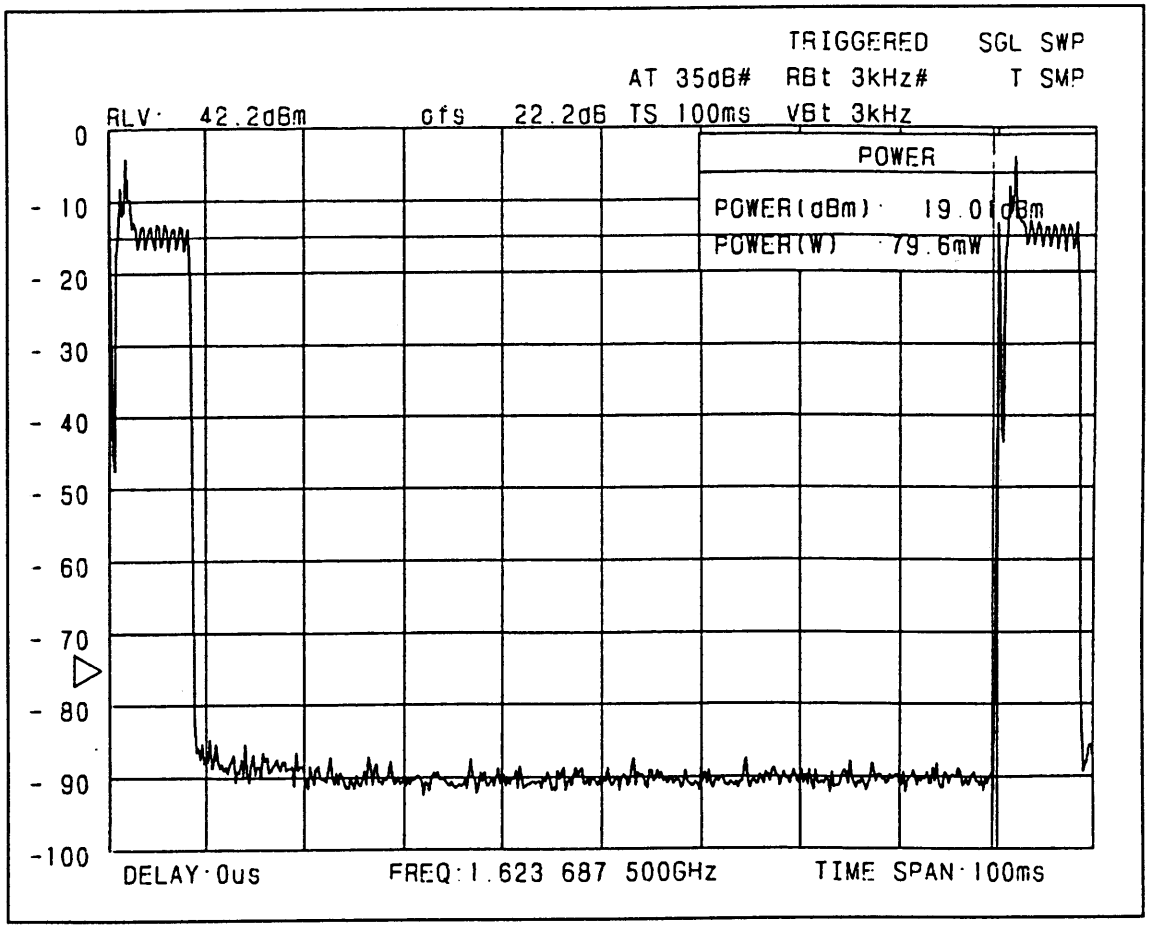
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER POWER DENSITY (Clause 7.4)

Medium operating sub-band tested: 1623.6875 MHz (sub 24/ch. 1)

Method of measurement: conducted; mean



Measuring uncertainty	*1.50 dB*

LIMITS (Clause 7.3)	27 dBm EIRP/4kHz

Measuring equipment used: *1, 8, 13 (see list page 85).*

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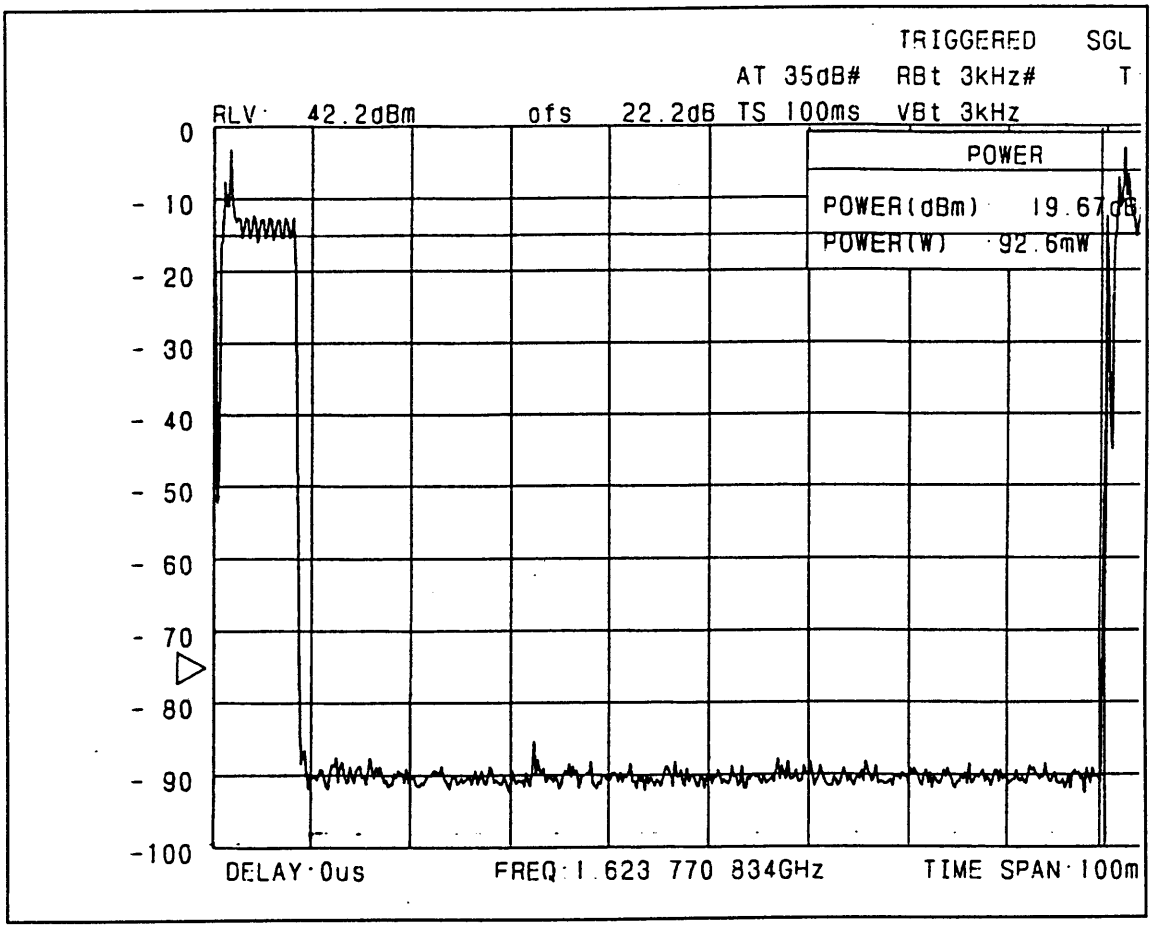
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER POWER DENSITY (Clause 7.4)

Medium operating sub-band tested: 1623.7708 MHz (sub 24/ch. 3)

Method of measurement: conducted; mean



Measuring uncertainty	*1.50 dB*

LIMITS (Clause 7.3)	27 dBm EIRP/4kHz

Measuring equipment used: *1, 8, 13 (see list page 85).*

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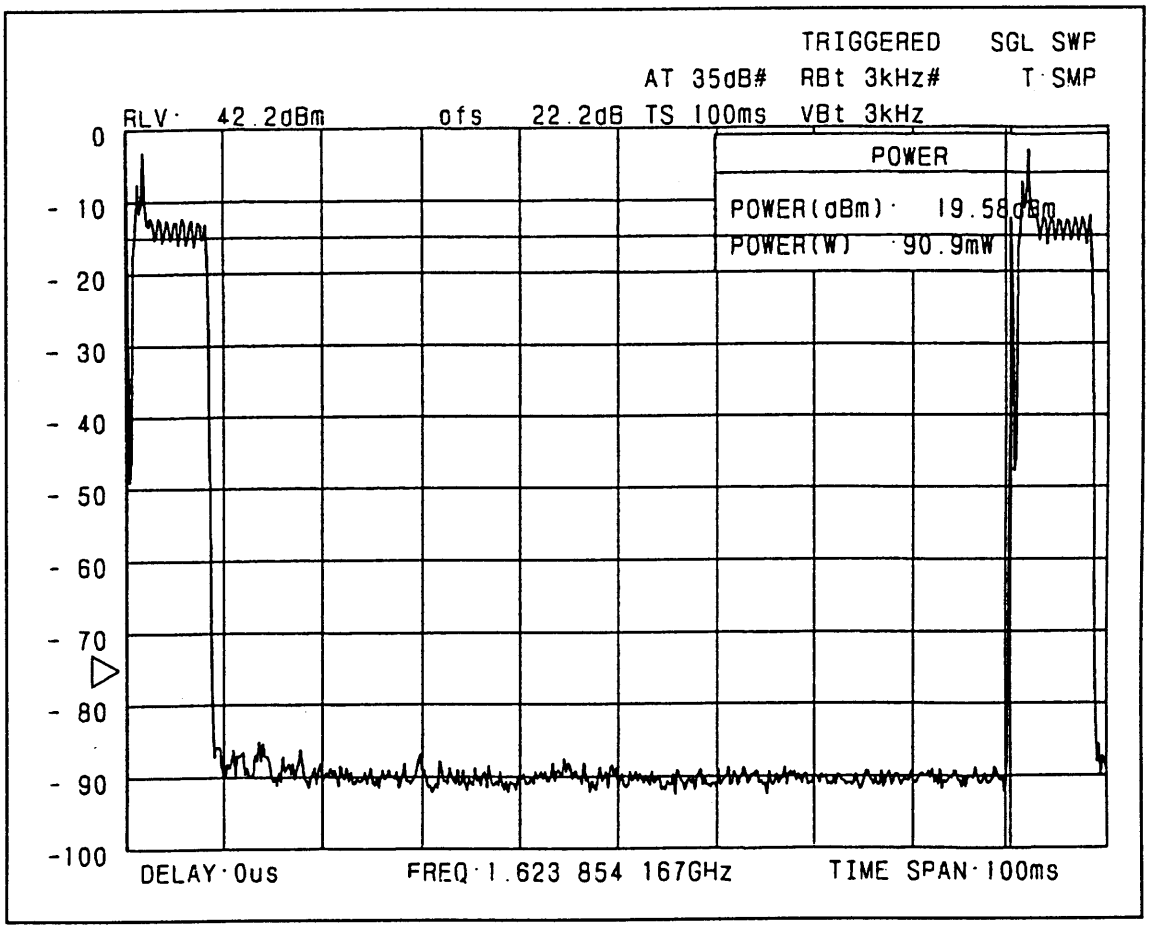
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER POWER DENSITY (Clause 7.4)

Medium operating sub-band tested: 1623.8542 MHz (sub 24/ch. 5)

Method of measurement: conducted; mean



Measuring uncertainty	*1.50 dB*

LIMITS (Clause 7.3)	27 dBm EIRP/4kHz

Measuring equipment used: *1, 8, 13 (see list page 85).*

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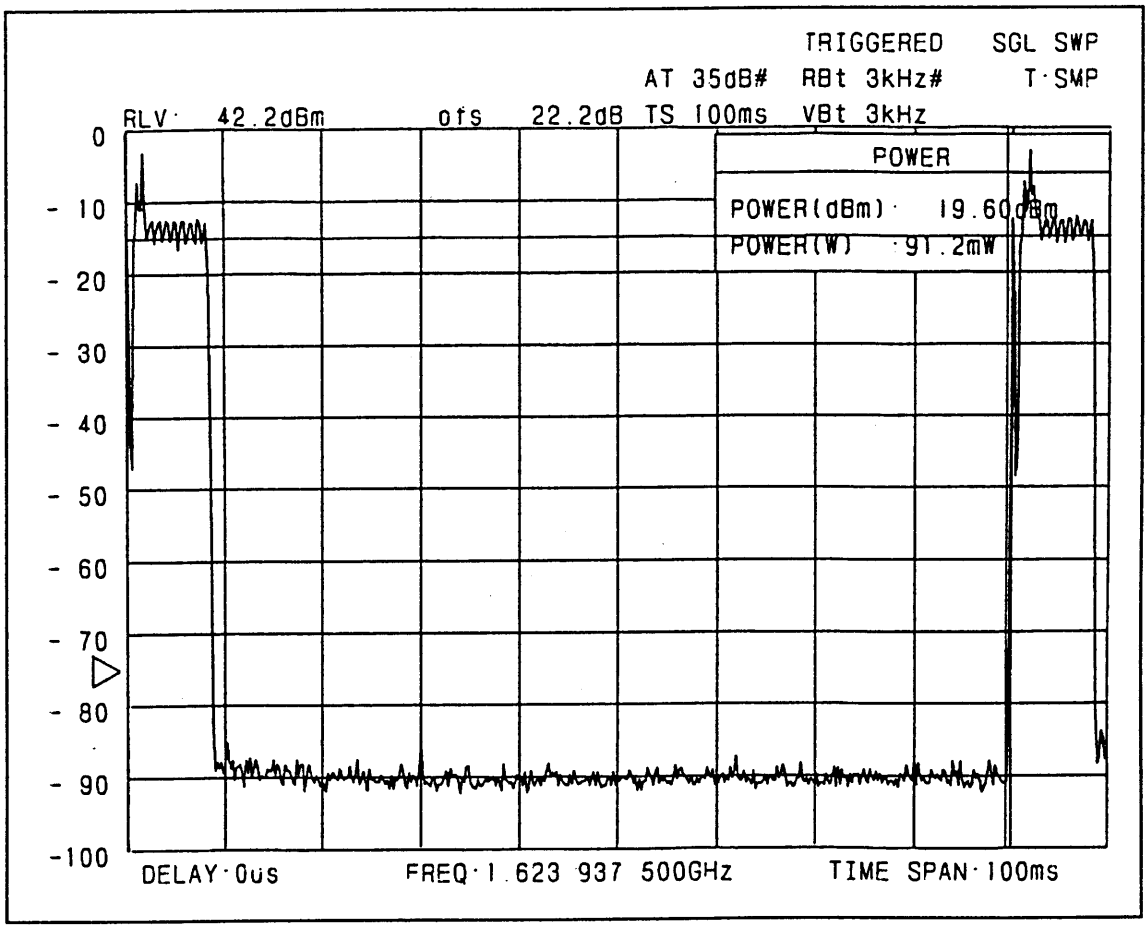
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER POWER DENSITY (Clause 7.4)

Medium operating sub-band tested: 1623.9375 MHz (sub 24/ch. 7)

Method of measurement: conducted; mean



Measuring uncertainty	*1.50 dB*

LIMITS (Clause 7.3)	27 dBm EIRP/4kHz

Measuring equipment used: *1, 8, 13 (see list page 85).*

TYPE TEST ACCORDING TO TBR 41

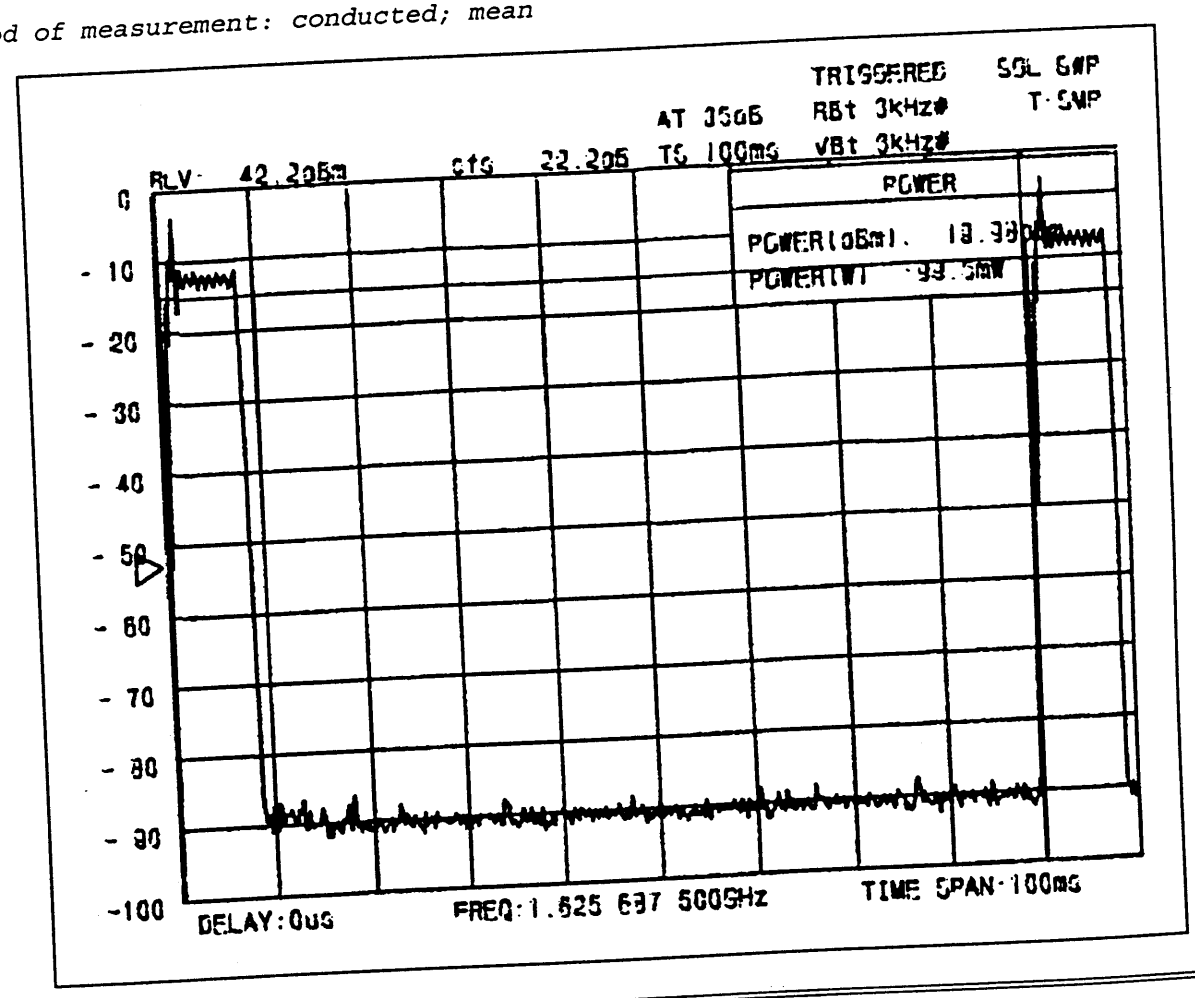
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER POWER DENSITY (Clause 7.4)

Highest operating sub-band tested: 1625.6875 MHz (sub 30/ch. 1)

Method of measurement: conducted; mean



Measuring uncertainty	*1.50 dB*

LIMITS (Clause 7.3)	27 dBm EIRP/4kHz

Measuring equipment used: *1, 8, 13 (see list page 85).*

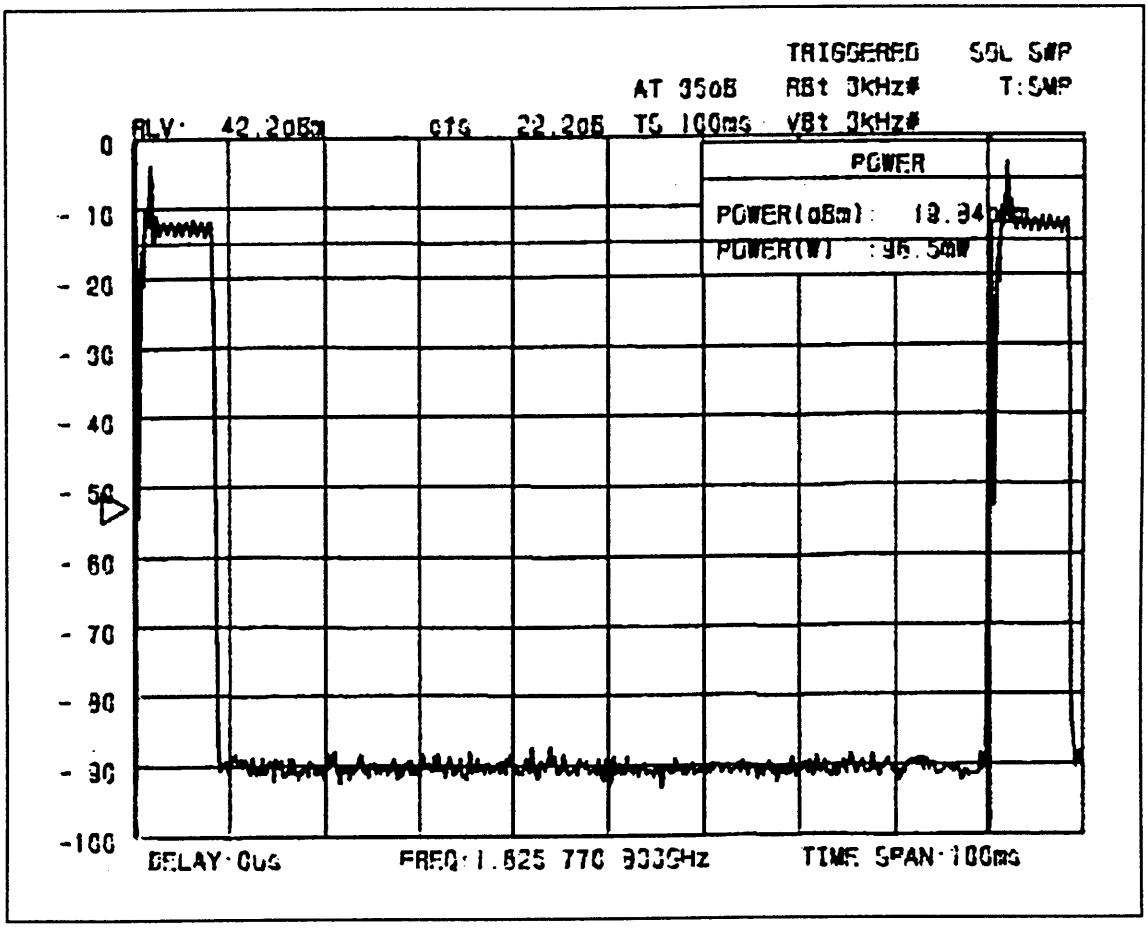
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER POWER DENSITY (Clause 7.4)

Highest operating sub-band tested: 1625.7708 MHz (sub 30/ch. 3)

Method of measurement: conducted; mean



Measuring uncertainty	*1.50 dB*

LIMITS (Clause 7.3)	27 dBm EIRP/4kHz

Measuring equipment used: *1, 8, 13 (see list page 85).*

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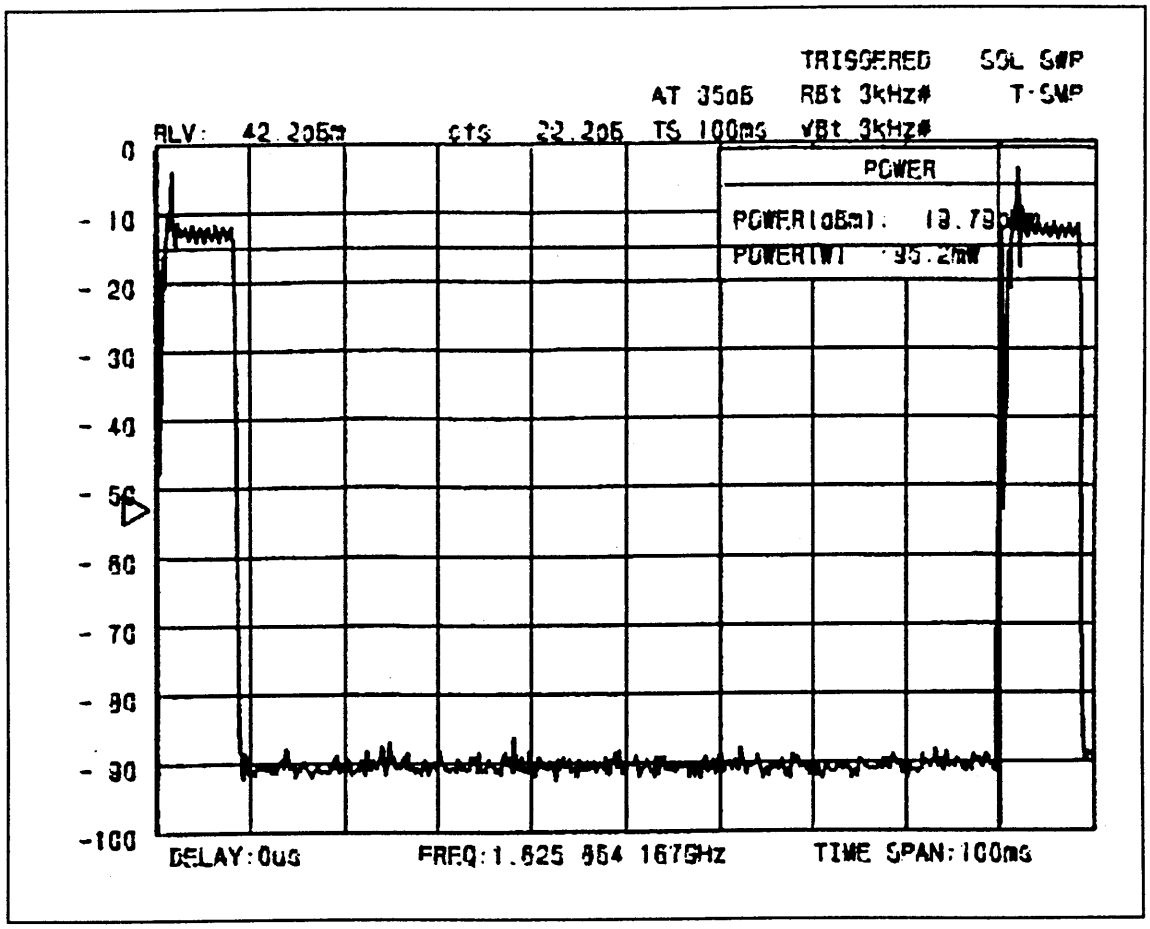
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER POWER DENSITY (Clause 7.4)

Highest operating sub-band tested: 1625.8542 MHz (sub 30/ch. 5)

Method of measurement: conducted; mean



Measuring uncertainty	*1.50 dB*

LIMITS (Clause 7.3)	27 dBm EIRP/4kHz

Measuring equipment used: *1, 8, 13 (see list page 85).*

TYPE TEST ACCORDING TO TBR 41 Issue February 1998

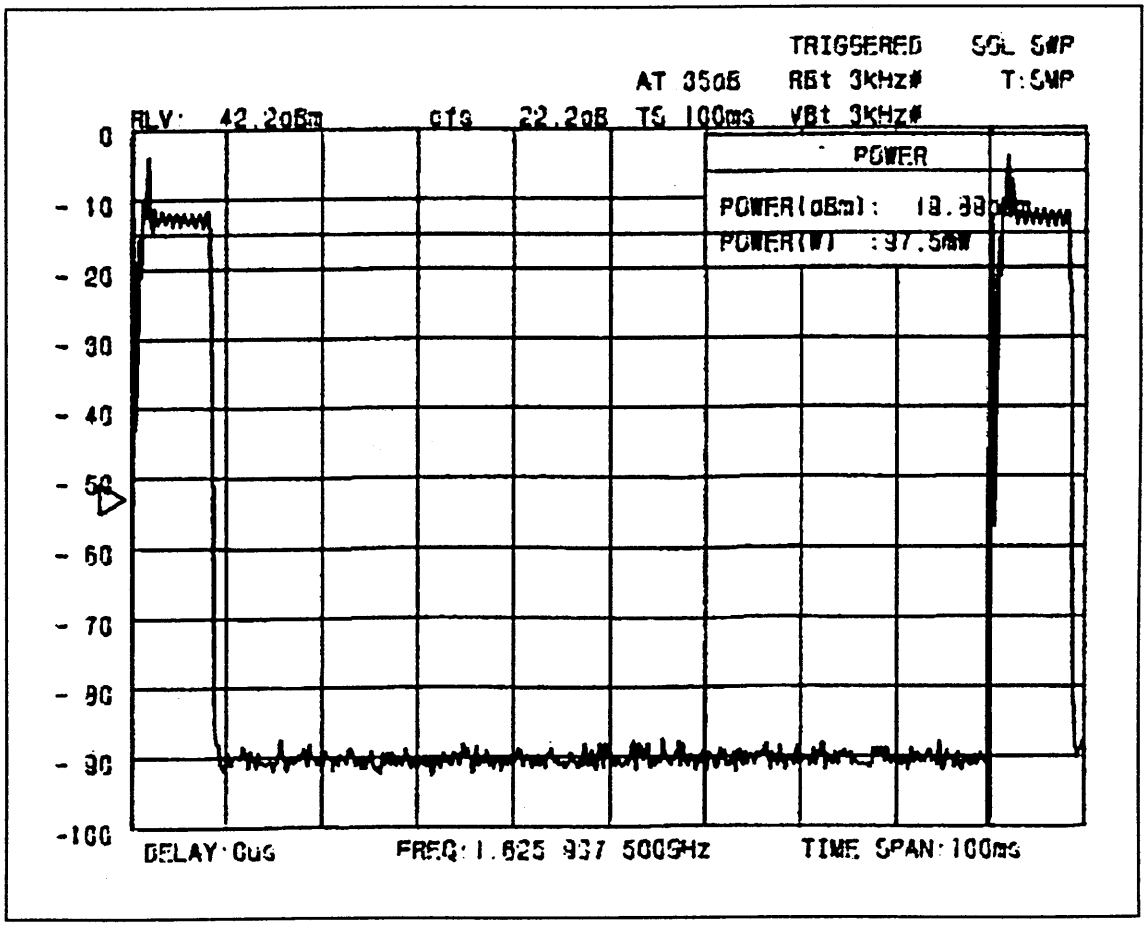
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER POWER DENSITY (Clause 7.4)

Highest operating sub-band tested: 1625.9375 MHz (sub 30/ch. 7)

Method of measurement: conducted; mean



Measuring uncertainty	*1.50 dB*

LIMITS (Clause 7.3)	27 dBm EIRP/4kHz

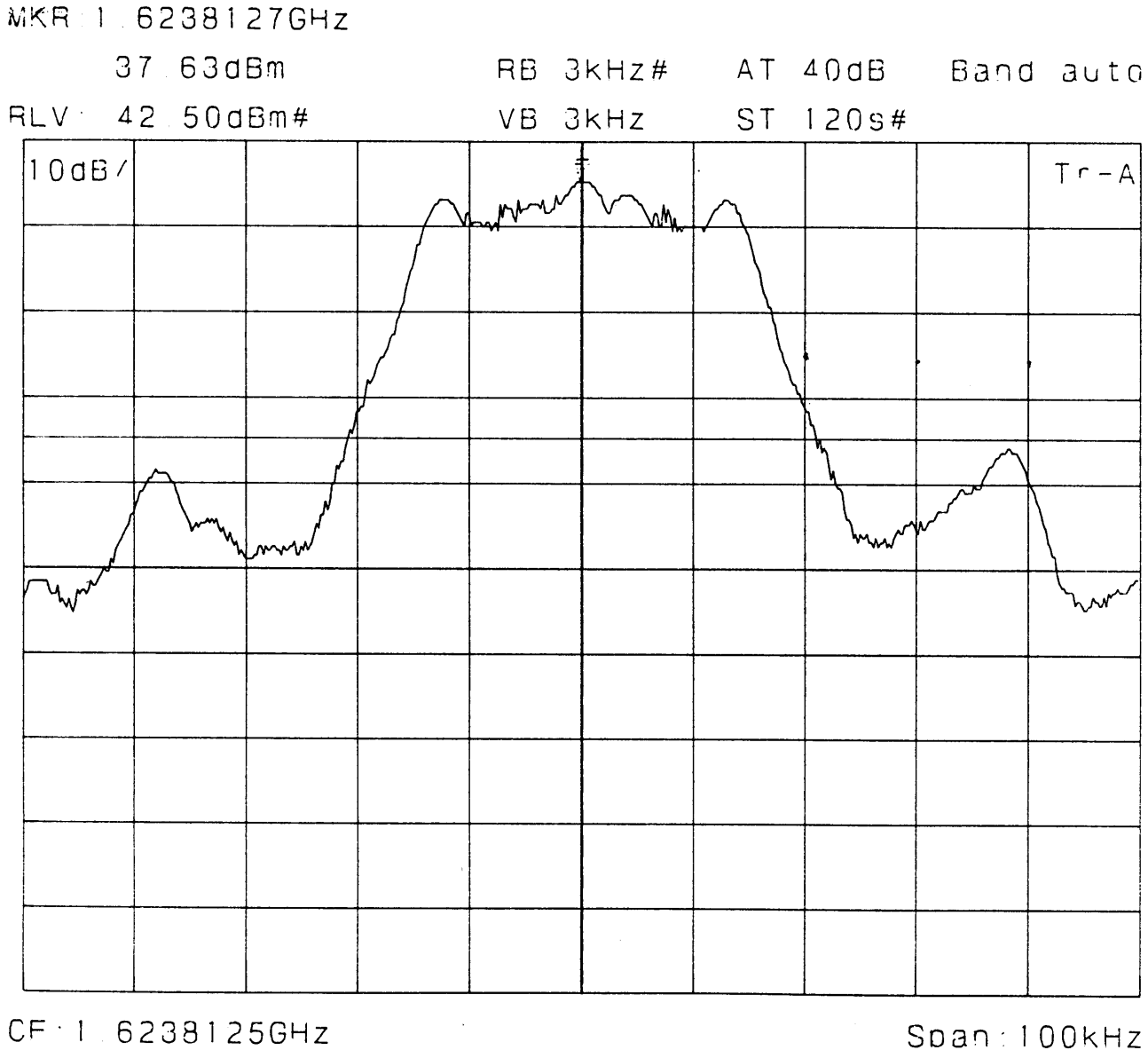
Measuring equipment used: *1, 8, 13 (see list page 85).*

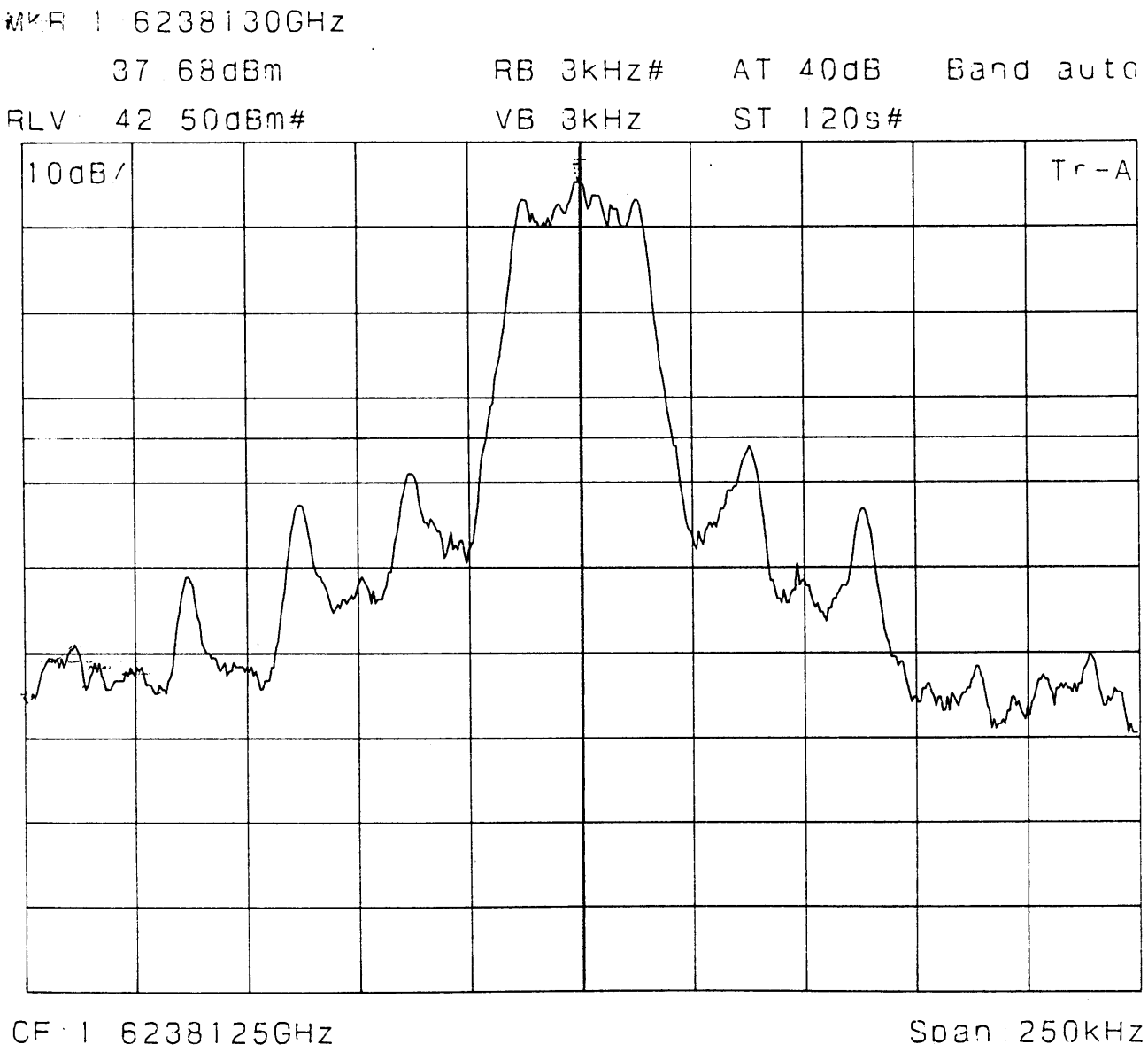
Section 4. Occupied Bandwidth

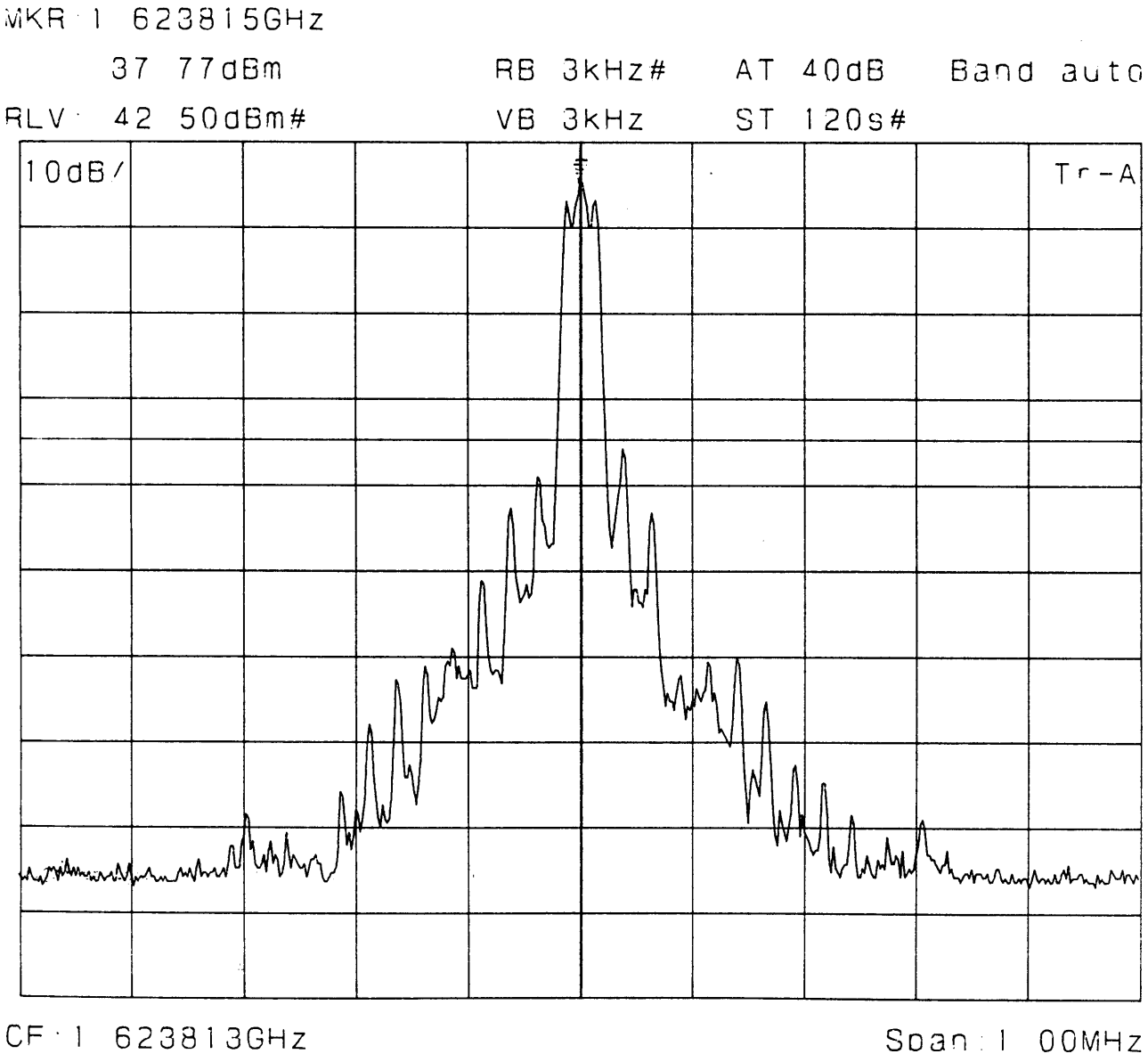
NAME OF TEST: Occupied Bandwidth	PARA. NO.: 2.917(c)

Test Results: Complies.

Test Data: See attached graph(s).


MKR 1 6238127GHz
37 63dBm
RB 3kHz#
AT 40dB
Band auto
RLV 42 50dBm#
VB 3kHz
ST 120s#
10dB/
Tr-A
CF 1 6238125GHz
Span 100kHz


MKR 1 6238130GHz
37 68dBm
RB 3kHz#
AT 40dB
Band auto
RLV 42 50dBm#
VB 3kHz
ST 120s#
10dB/
Tr-A
CF 1 6238125GHz
Span 250kHz


MKR 1 623815GHz
37 77dBm
RB 3kHz#
AT 40dB
Band auto
RLV 42 50dBm#
VB 3kHz
ST 120s#
10dB/
Tr-A
CF 1 623813GHz
Span 1 00MHz

Section 5. Spurious Emissions at Antenna Terminals

NAME OF TEST: Spurious Emissions @ Antenna Terminals PARA. NO.: 2.917(e)

Test Results: Complies.

Test Data:

Worst-case Out-of-Band Spurious Emissions: -34.1 **dBm** @ 12,636 **MHz**
Worst-case In-Band Spurious Emissions: <-25.0 **dBm**

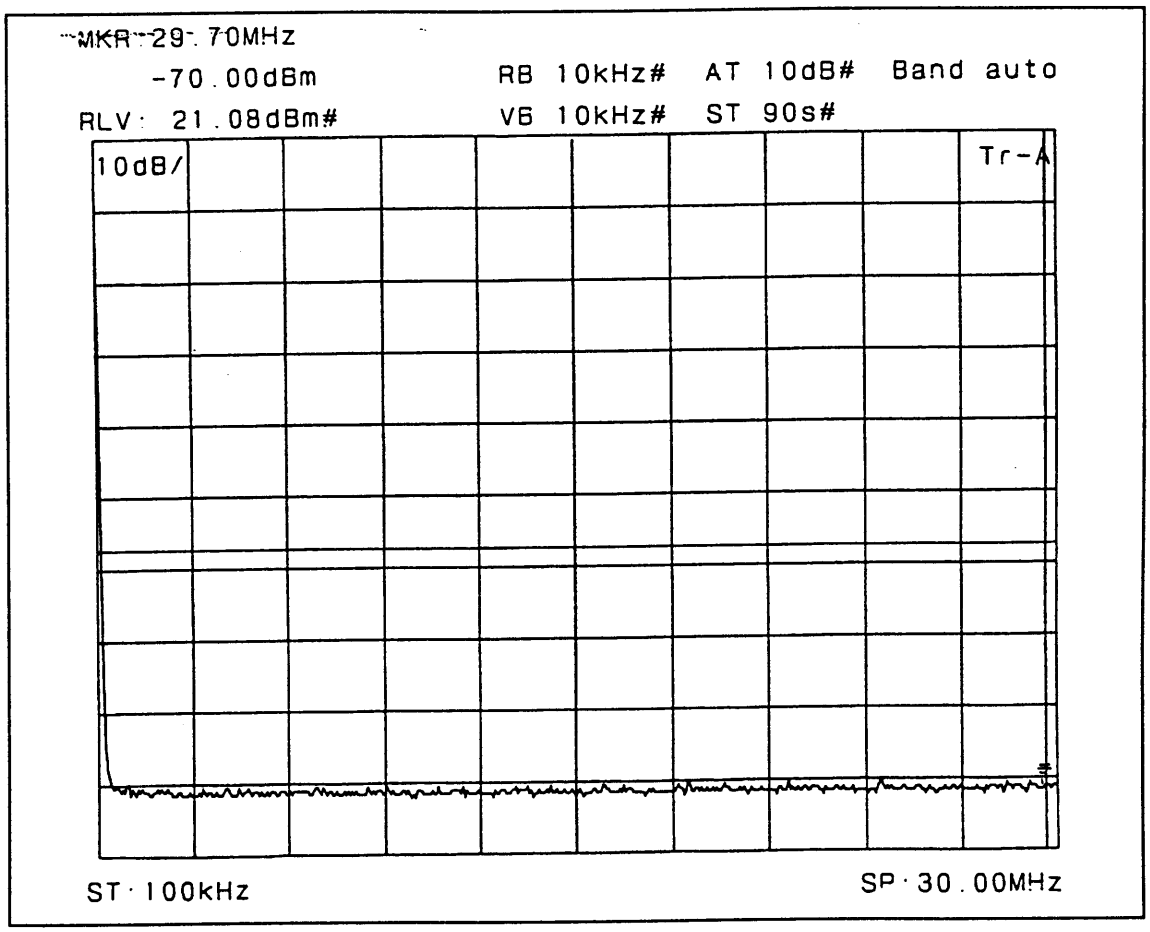
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Lowest operating frequency tested: 1621.6875 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	100 kHz - 30 MHz
	- 36 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

TYPE TEST ACCORDING TO TBR 41 Issue February 1998

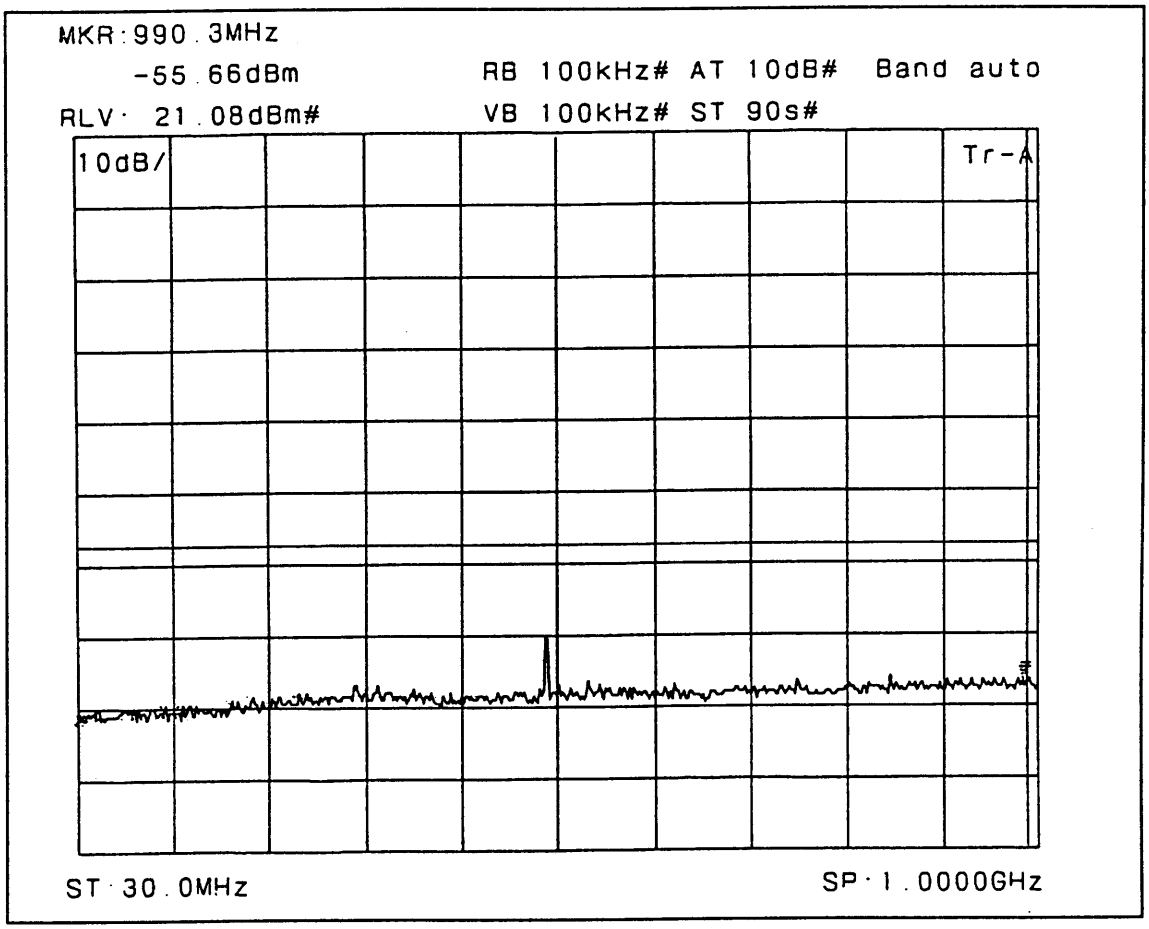
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Lowest operating frequency tested: 1621.6875 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	30 MHz - 1000 MHz
	- 36 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

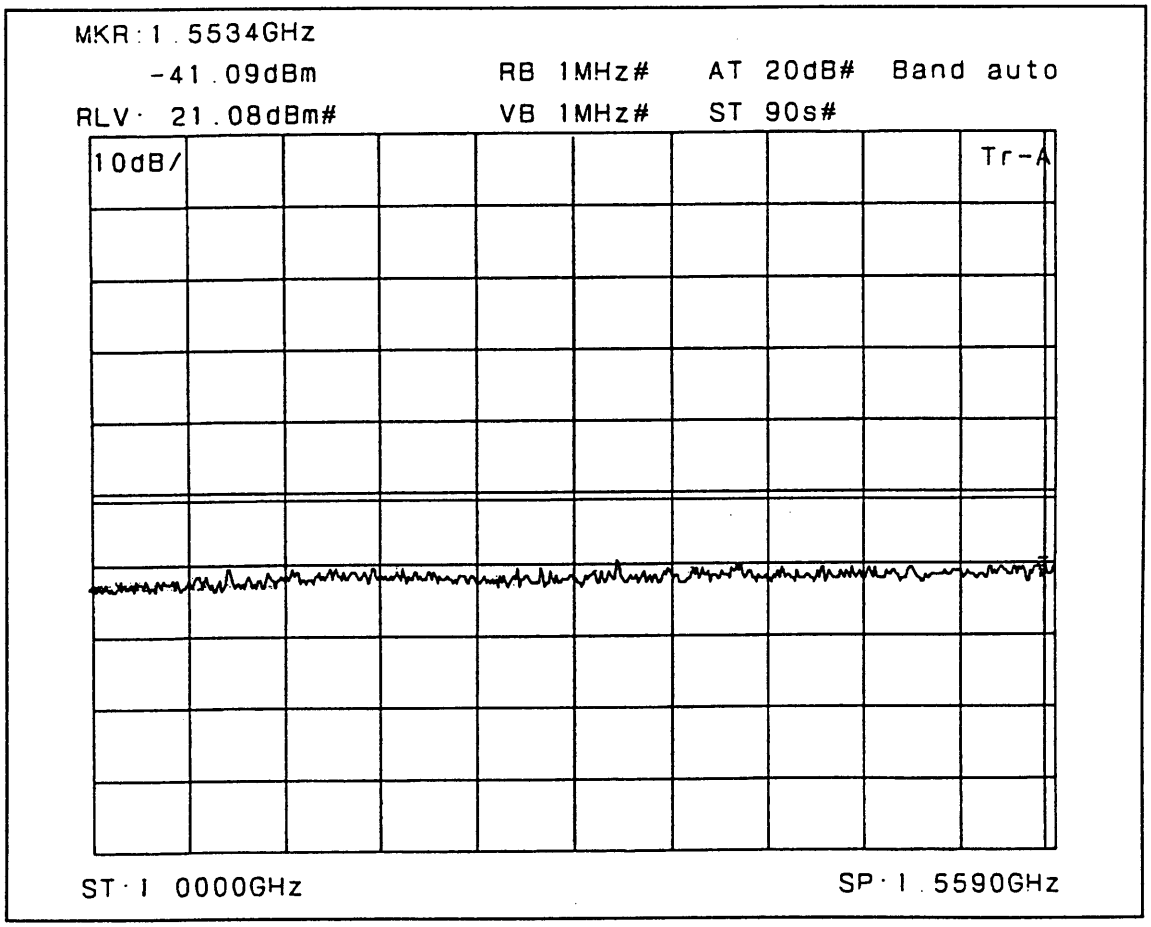
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Lowest operating frequency tested: 1621.6875 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1000 MHz - 1559 MHz
	- 30 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

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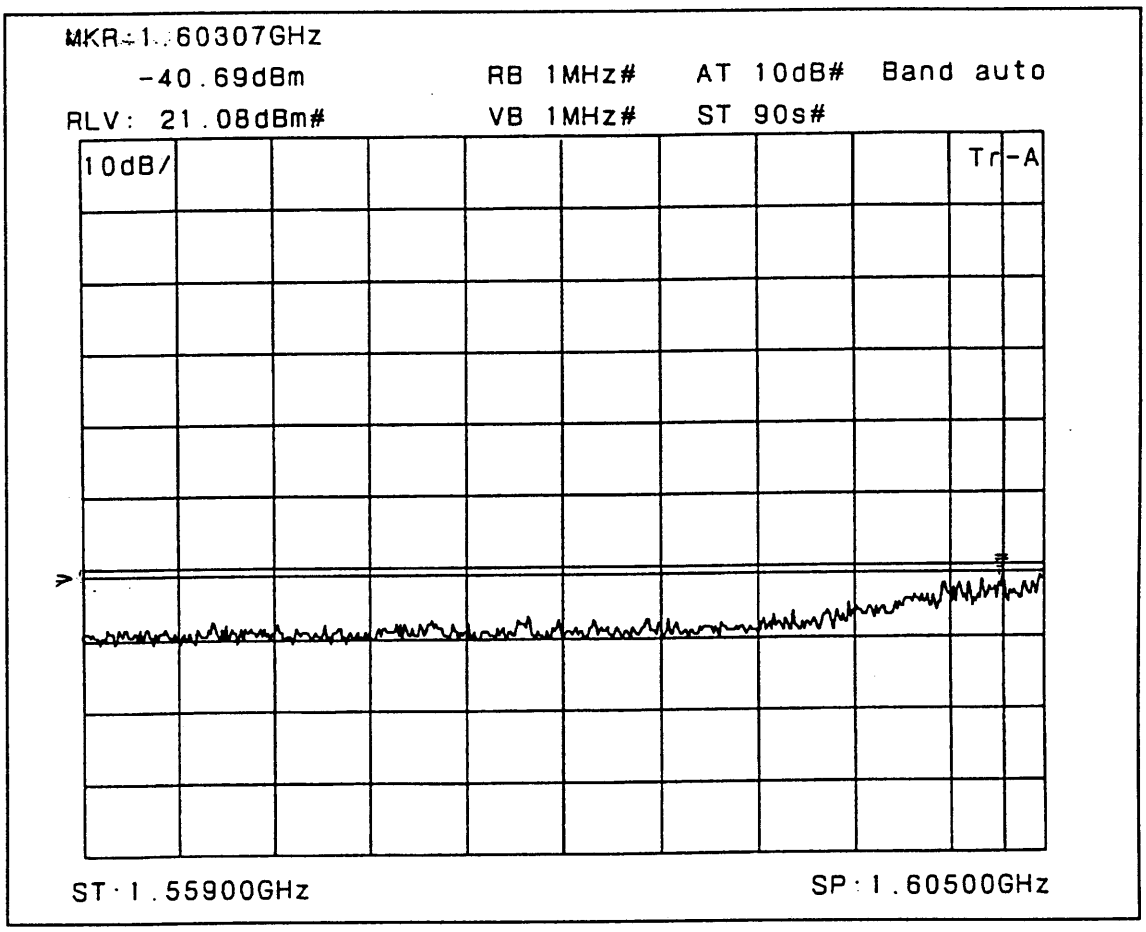
incl. handheld earth stations for operation in a Satellite-Personal
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Lowest operating frequency tested: 1621.6875 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1559 MHz - 1605 MHz
	- 40 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

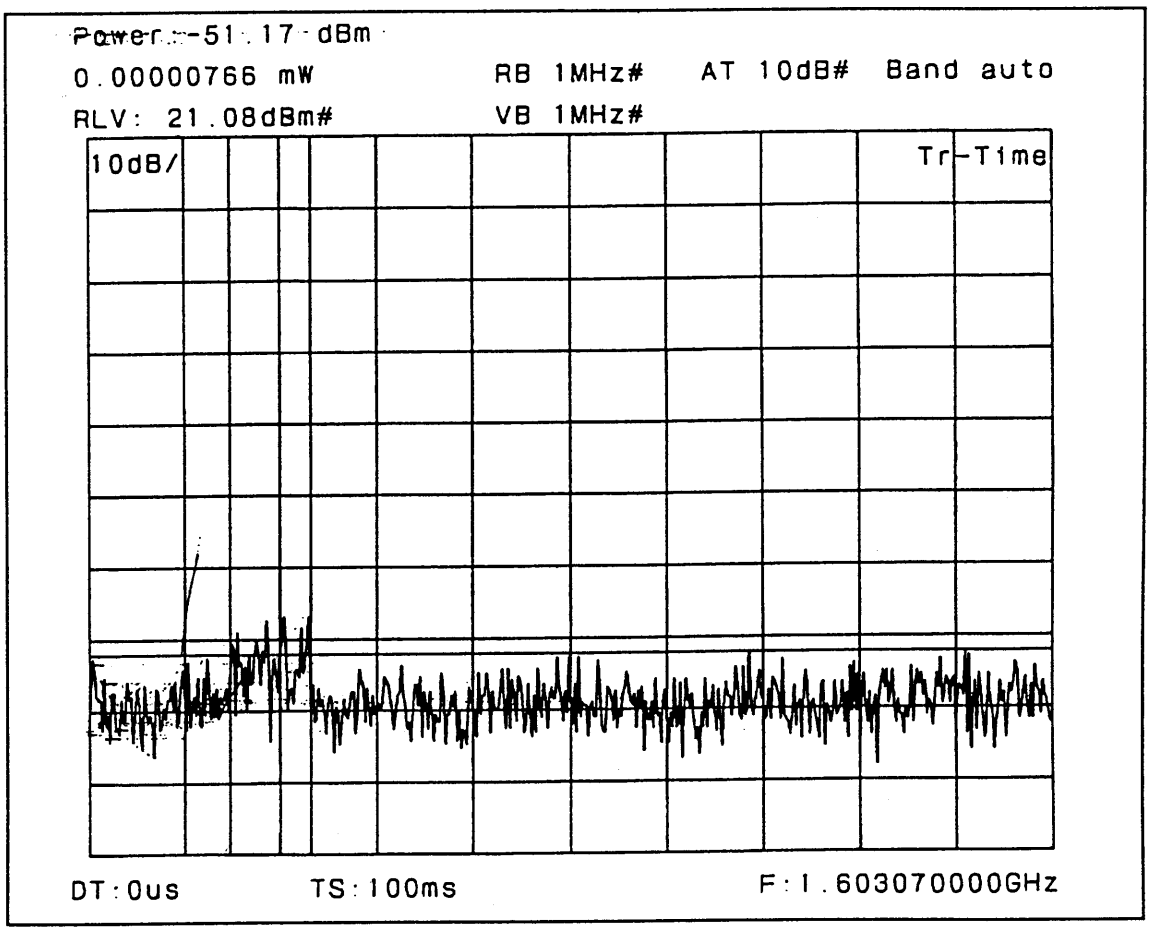
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Lowest operating frequency tested: 1621.6875 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1580.42 - 1605 MHz
	-40 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

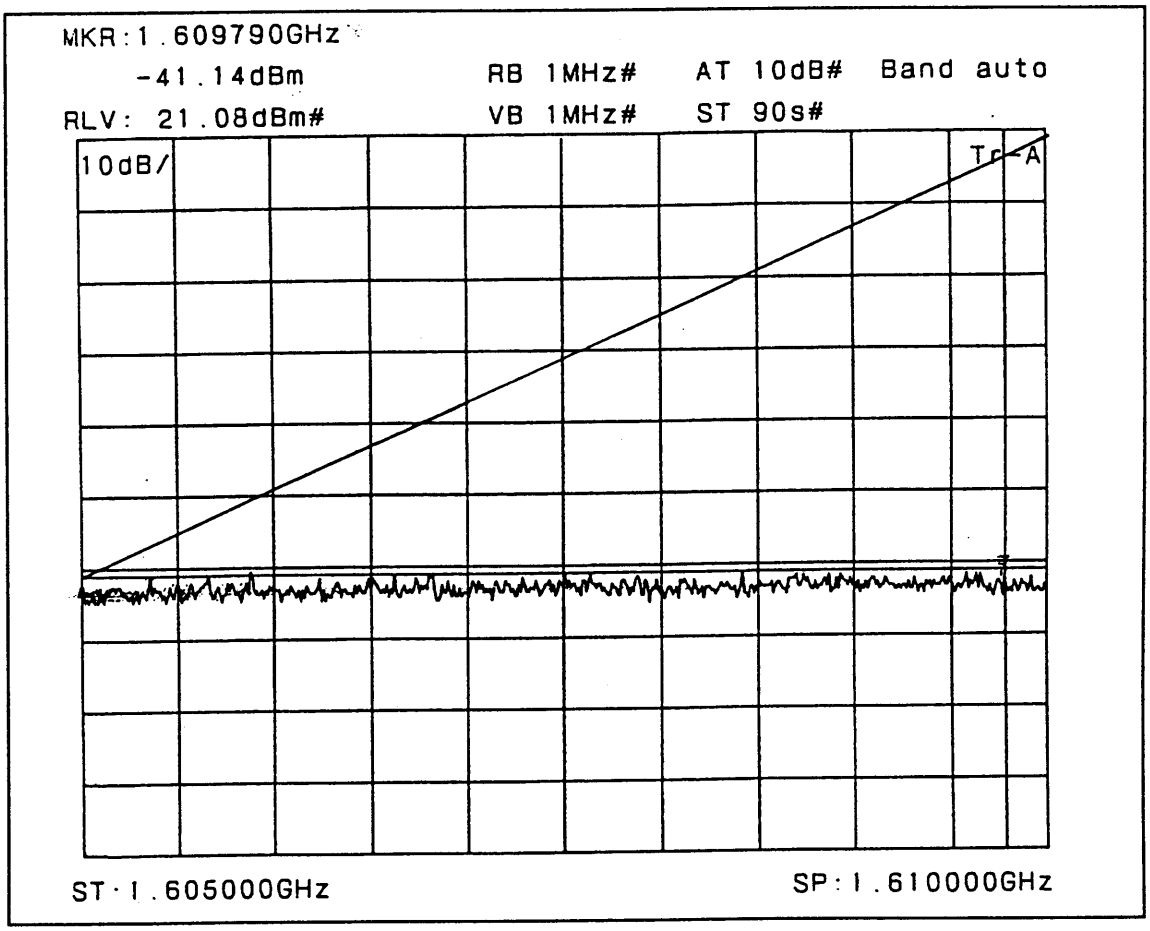
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Lowest operating frequency tested: 1621.6875 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1605 MHz - 1610 MHz
	-40 to +20 dBm EIRP (linearly interpol.)

Measuring equipment used: *2, 8, 13 (see list page 85).*

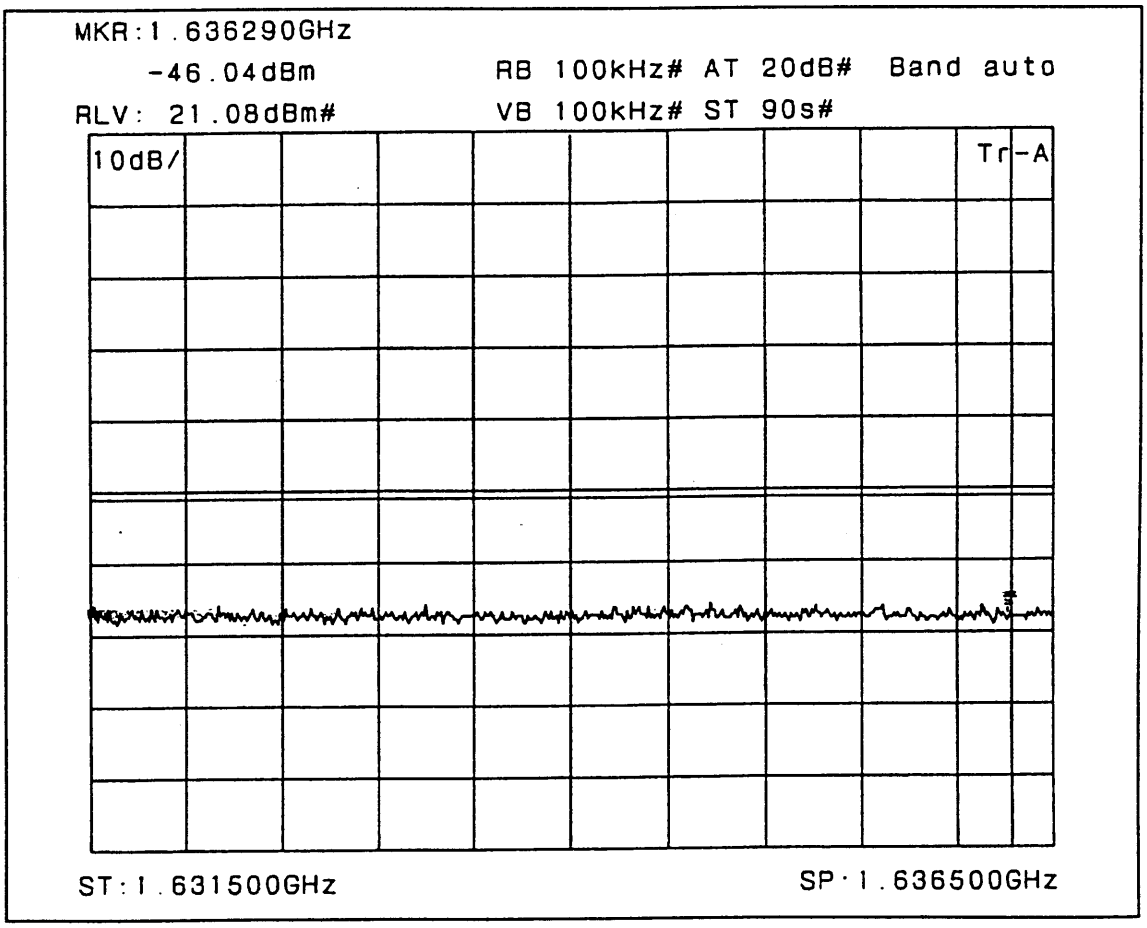
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Lowest operating frequency tested: 1621.6875 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1631.5 - 1636.5 MHz
	- 30 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

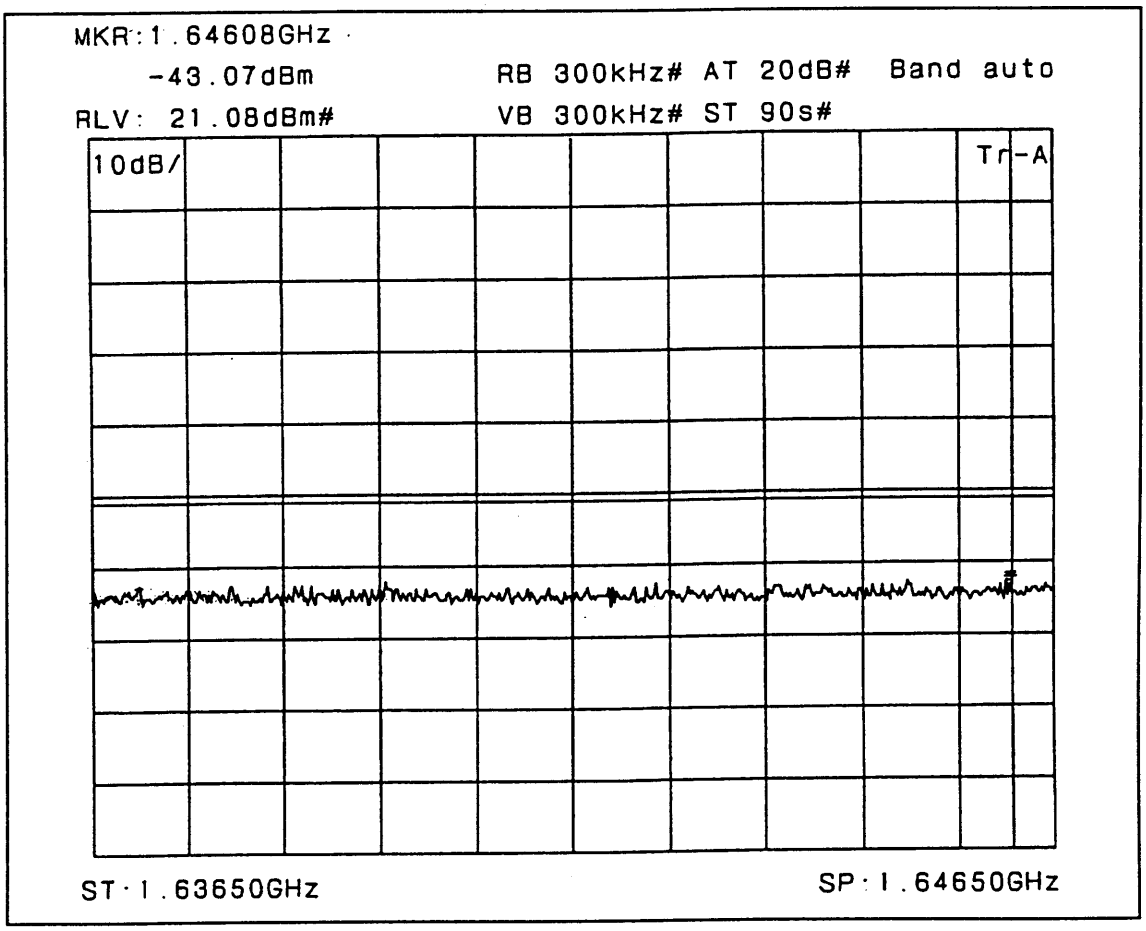
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Lowest operating frequency tested: 1621.6875 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1636.5 - 1646.5 MHz
	- 30 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

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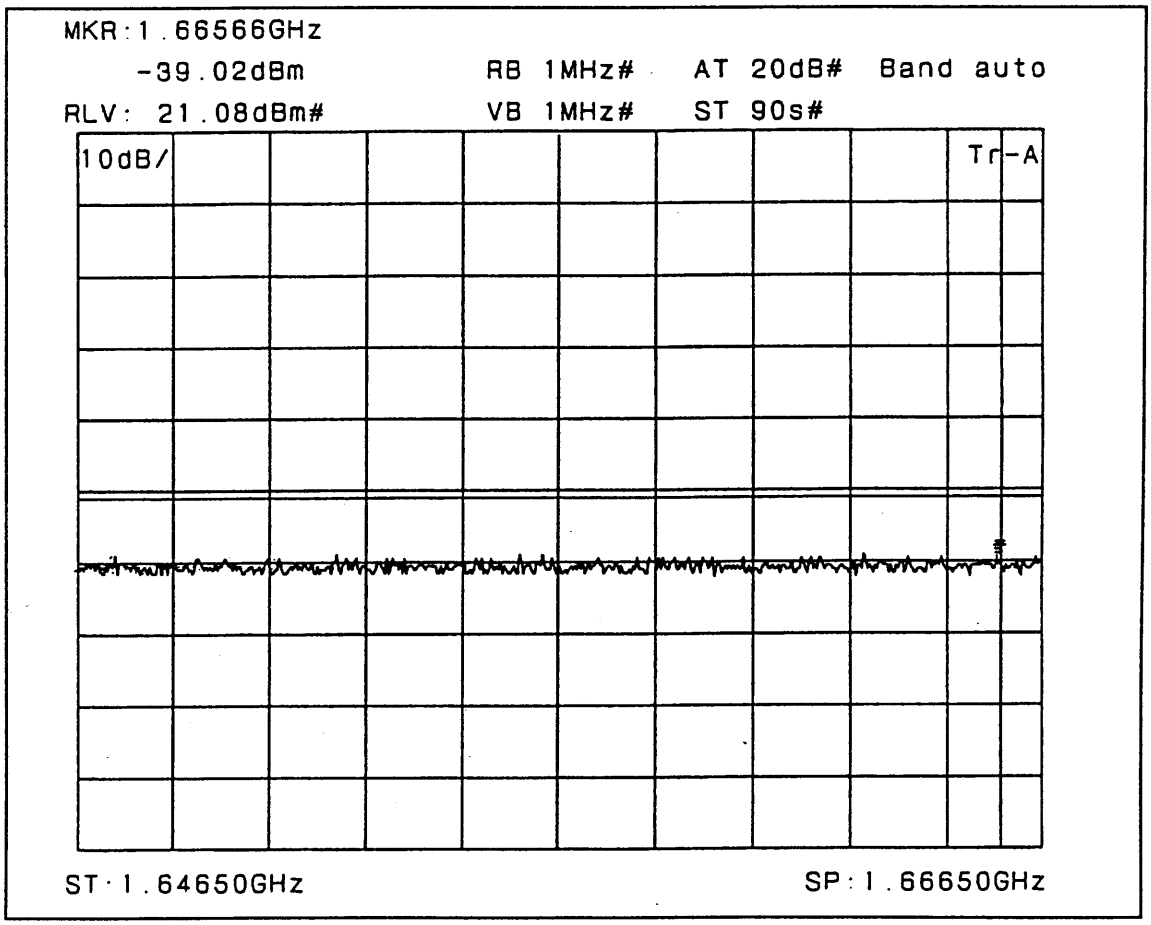
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Lowest operating frequency tested: 1621.6875 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1646.5 - 1666.5 MHz
	- 30 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

TYPE TEST ACCORDING TO TBR 41 Issue February 1998

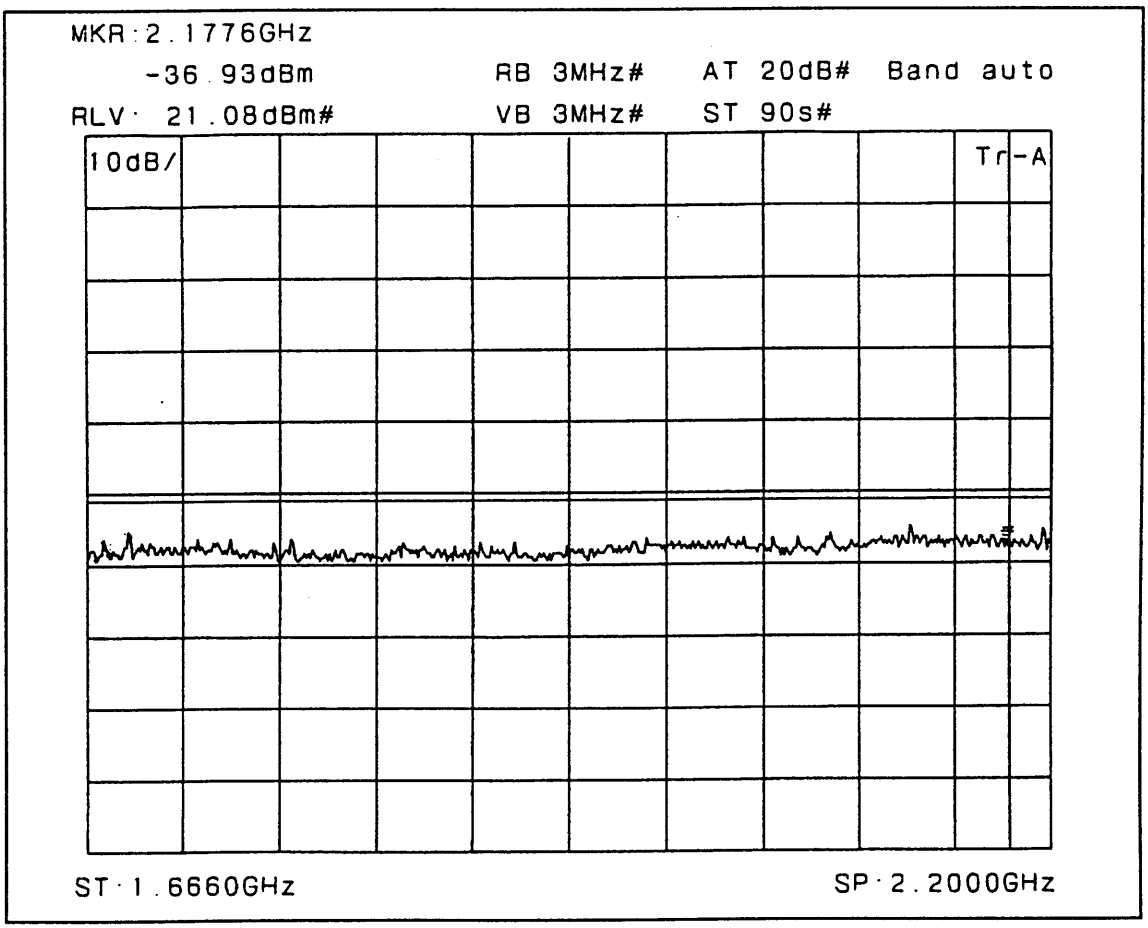
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Lowest operating frequency tested: 1621.6875 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1666.5 MHz - 2200 MHz
	- 30 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

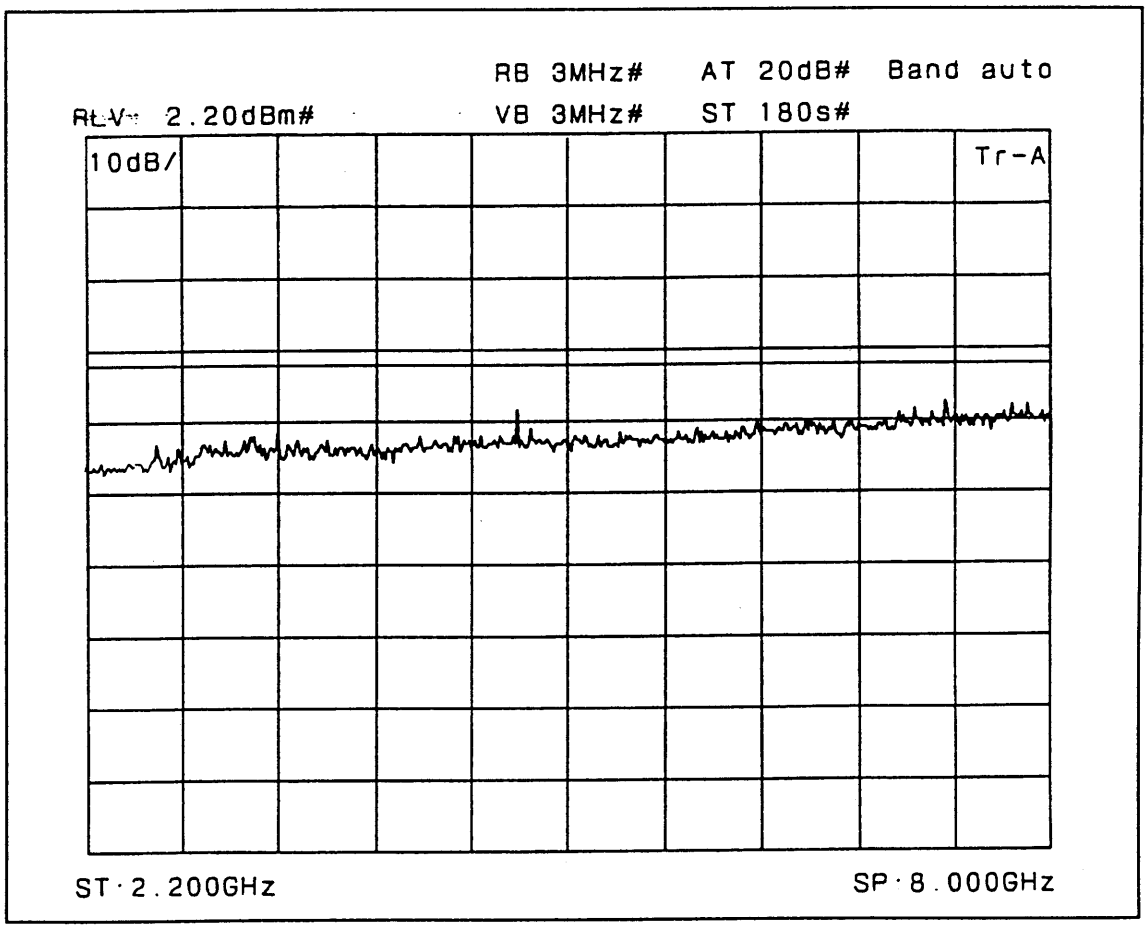
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Lowest operating frequency tested: 1621.6875 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	2200 MHz - 12750 MHz
	- 30 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

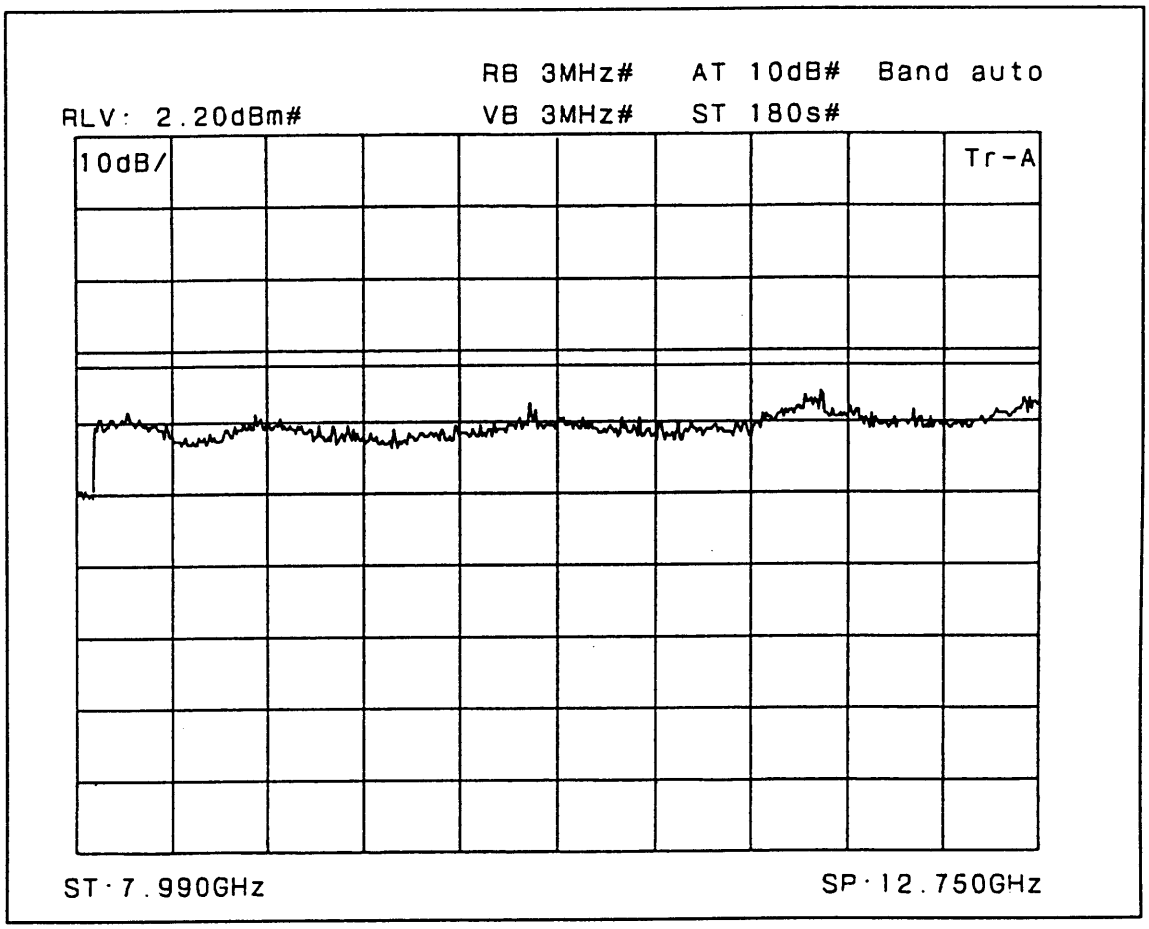
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Lowest operating frequency tested: 1621.6875 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	2200 MHz - 12750 MHz
	- 30 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

TYPE TEST ACCORDING TO TBR 41 Issue February 1998

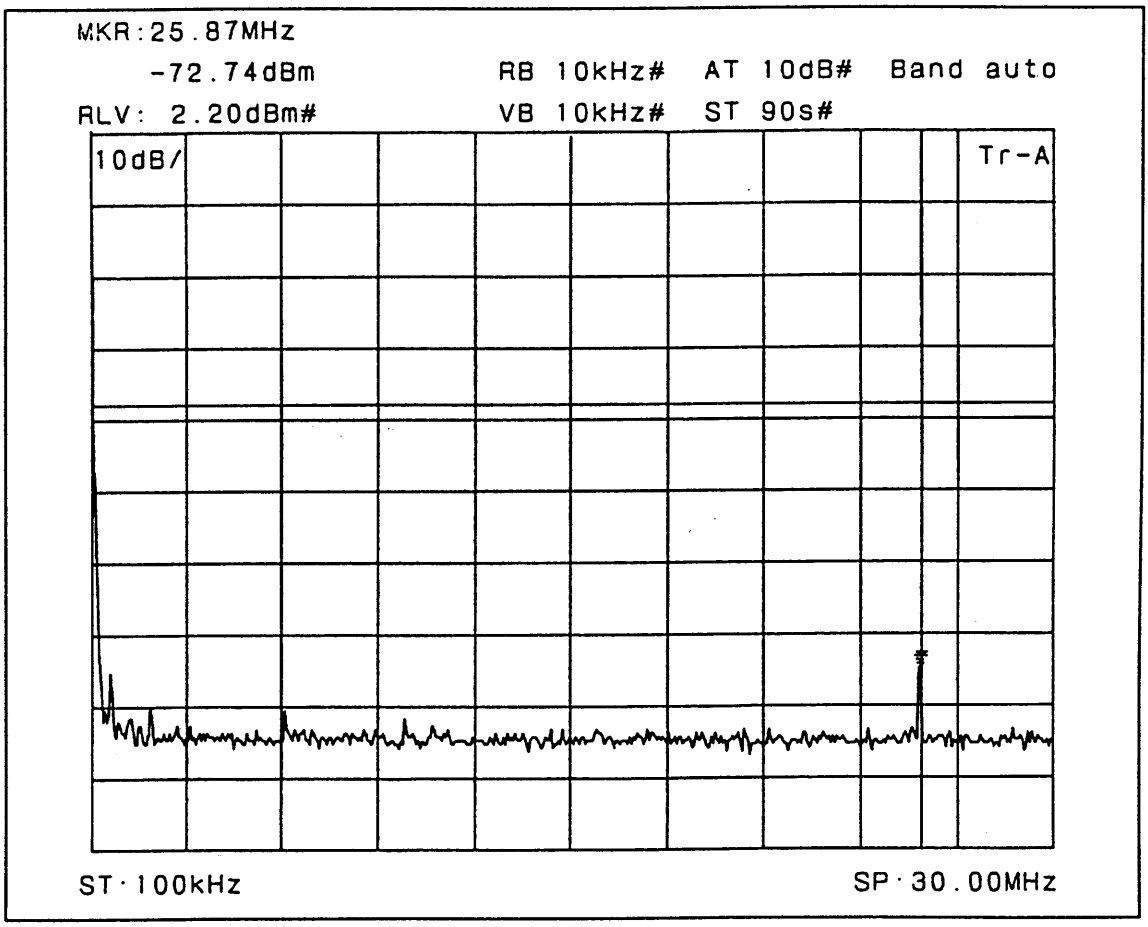
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Highest operating frequency tested: 1625.9792 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	100 kHz - 30 MHz
	- 36 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

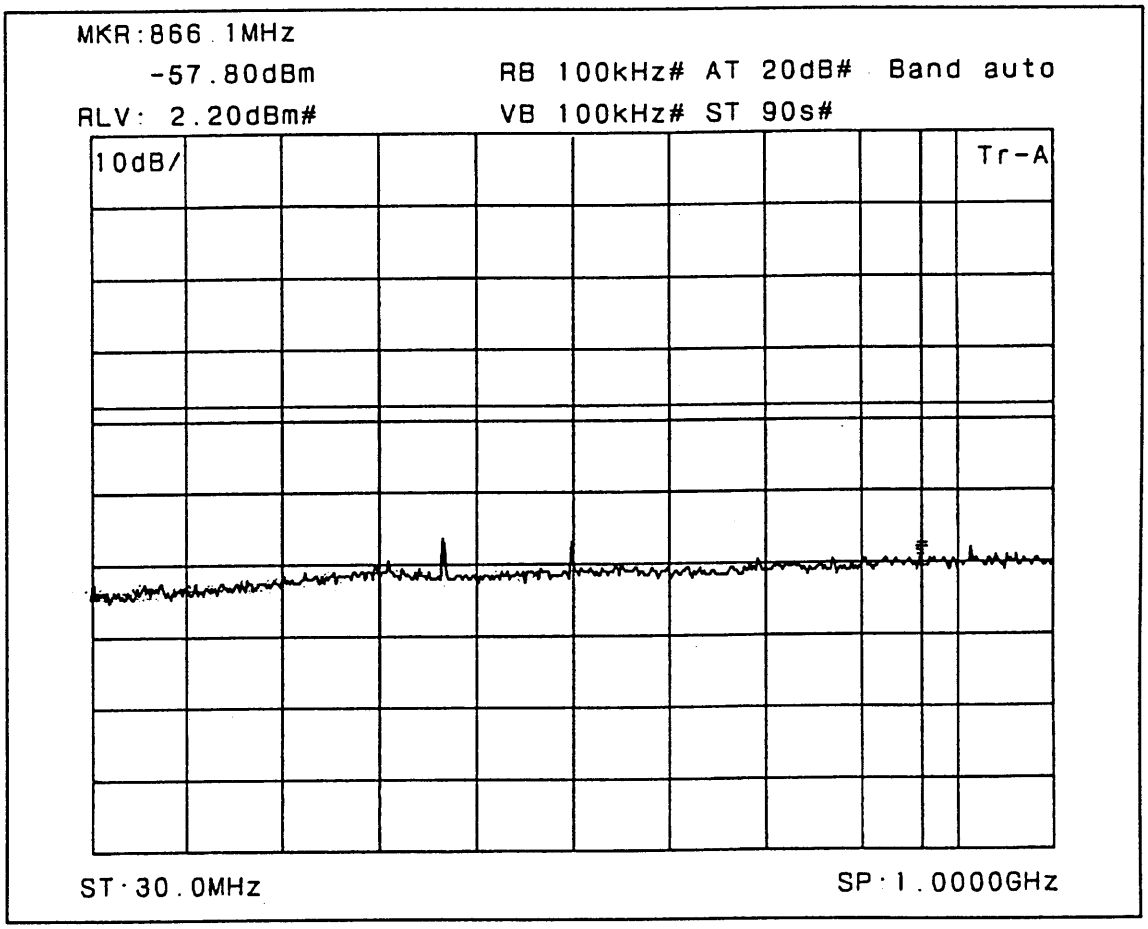
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Highest operating frequency tested: 1625.9792 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	30 MHz - 1000 MHz
	- 36 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

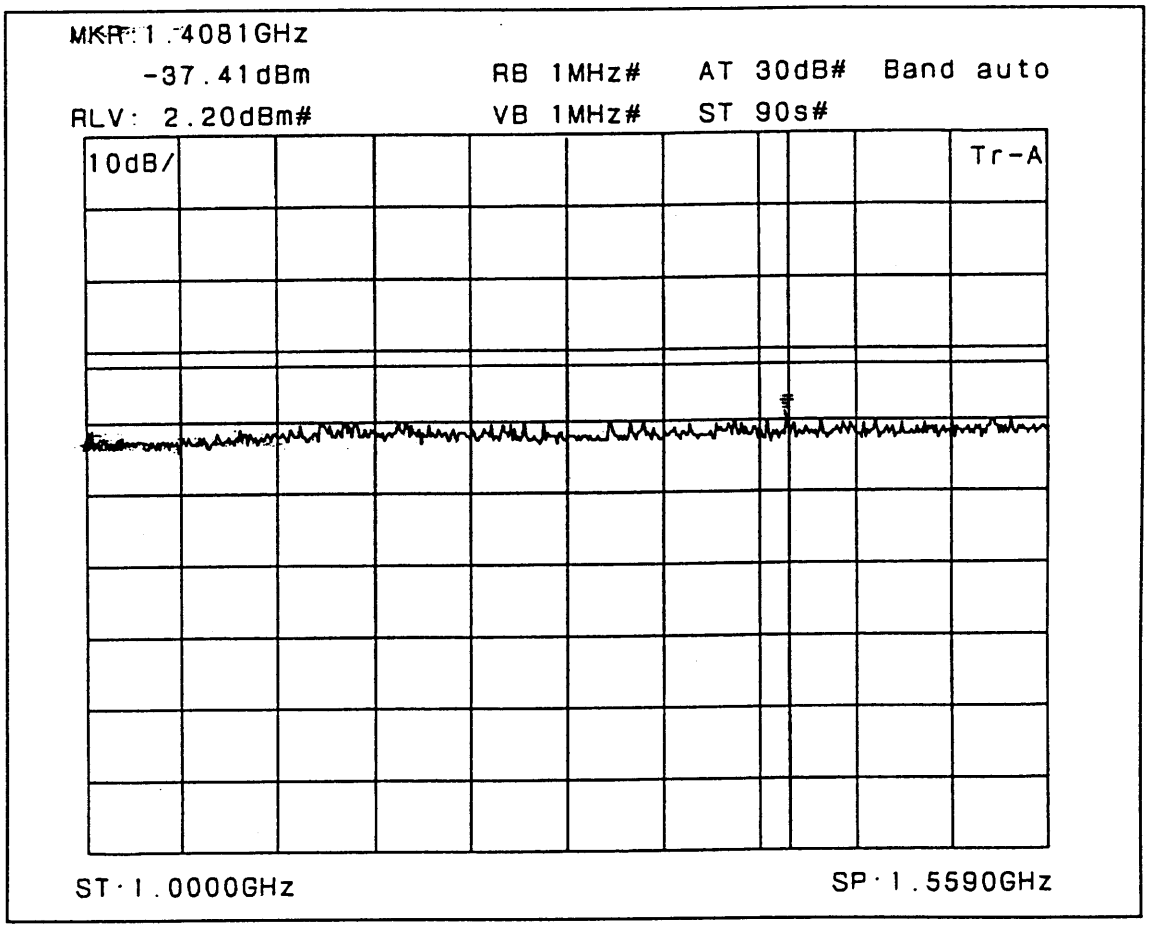
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Highest operating frequency tested: 1625.9792 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1000 MHz - 1559 MHz
	- 30 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

TYPE TEST ACCORDING TO TBR 41 Issue February 1998

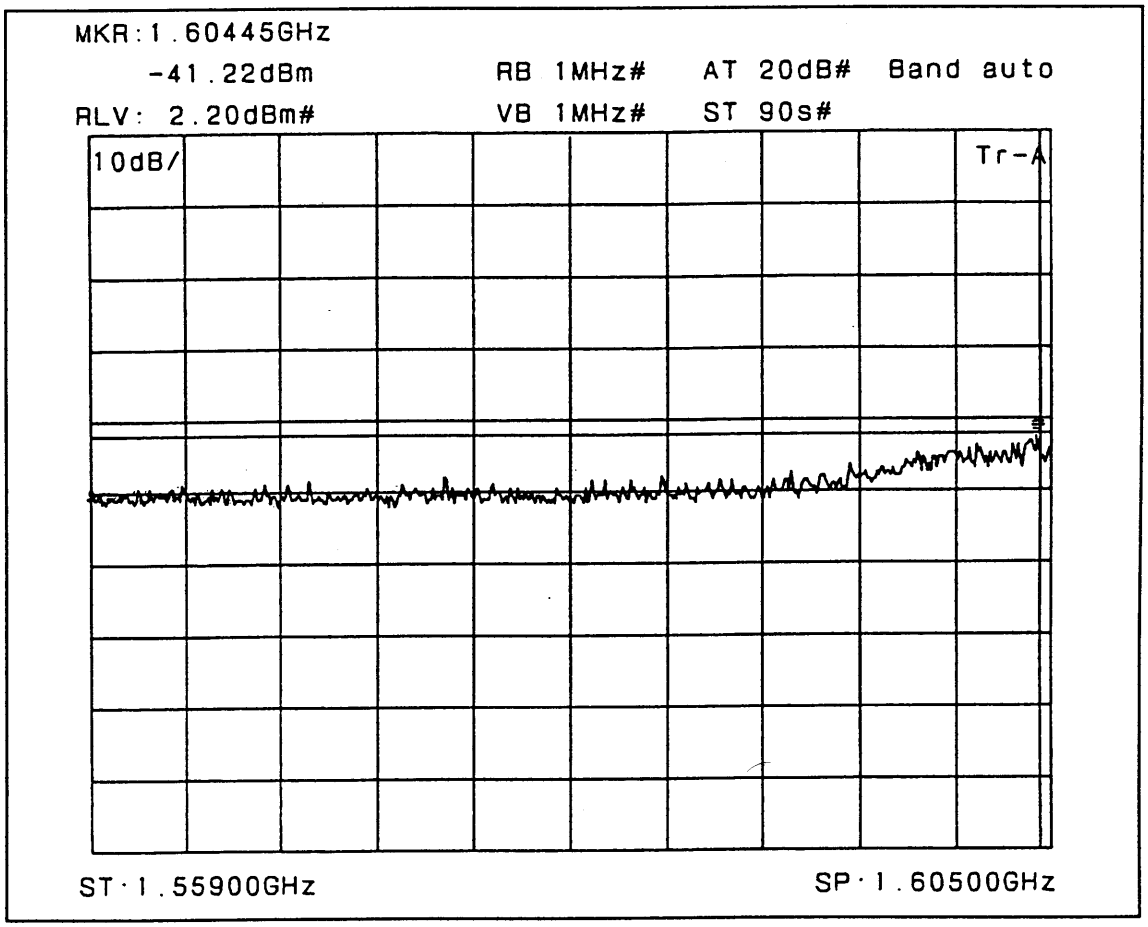
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Highest operating frequency tested: 1625.9792 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1559 MHz - 1605 MHz
	- 40 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

TYPE TEST ACCORDING TO TBR 41 Issue February 1998

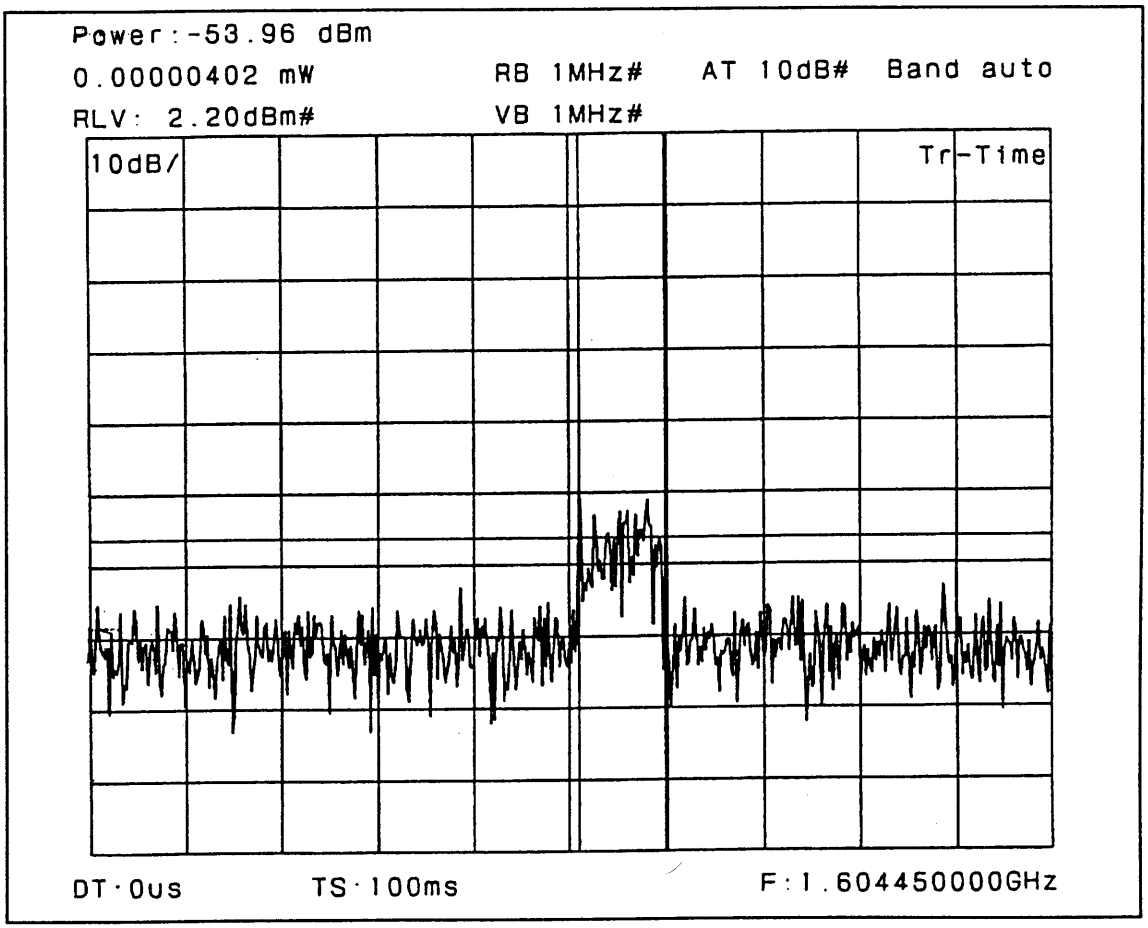
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Highest operating frequency tested: 1625.9792 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1580.42 - 1605 MHz
	- 40 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

TYPE TEST ACCORDING TO TBR 41 Issue February 1998

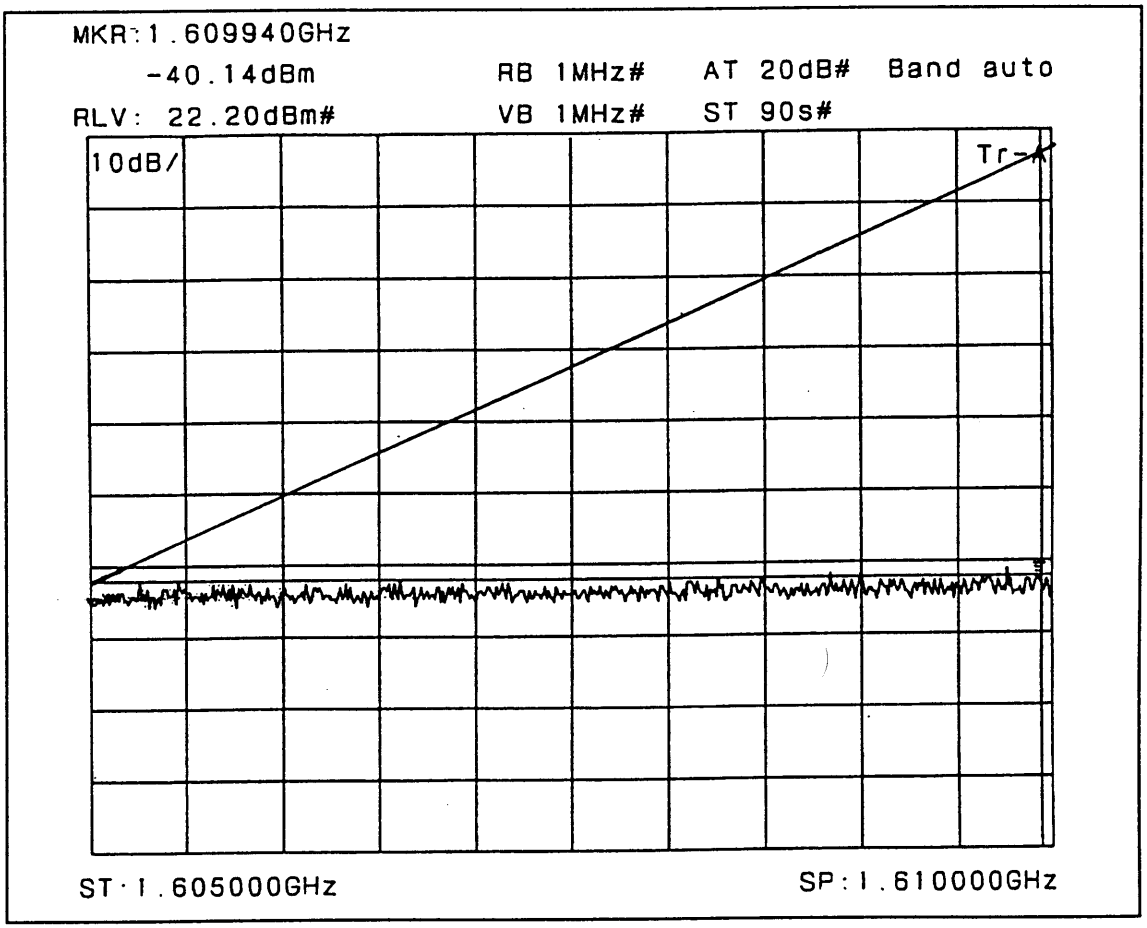
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Highest operating frequency tested: 1625.9792 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1605 MHz - 1610 MHz
	-40 to +20 dBm EIRP (linearly interpol.)

Measuring equipment used: *2, 8, 13 (see list page 85).*

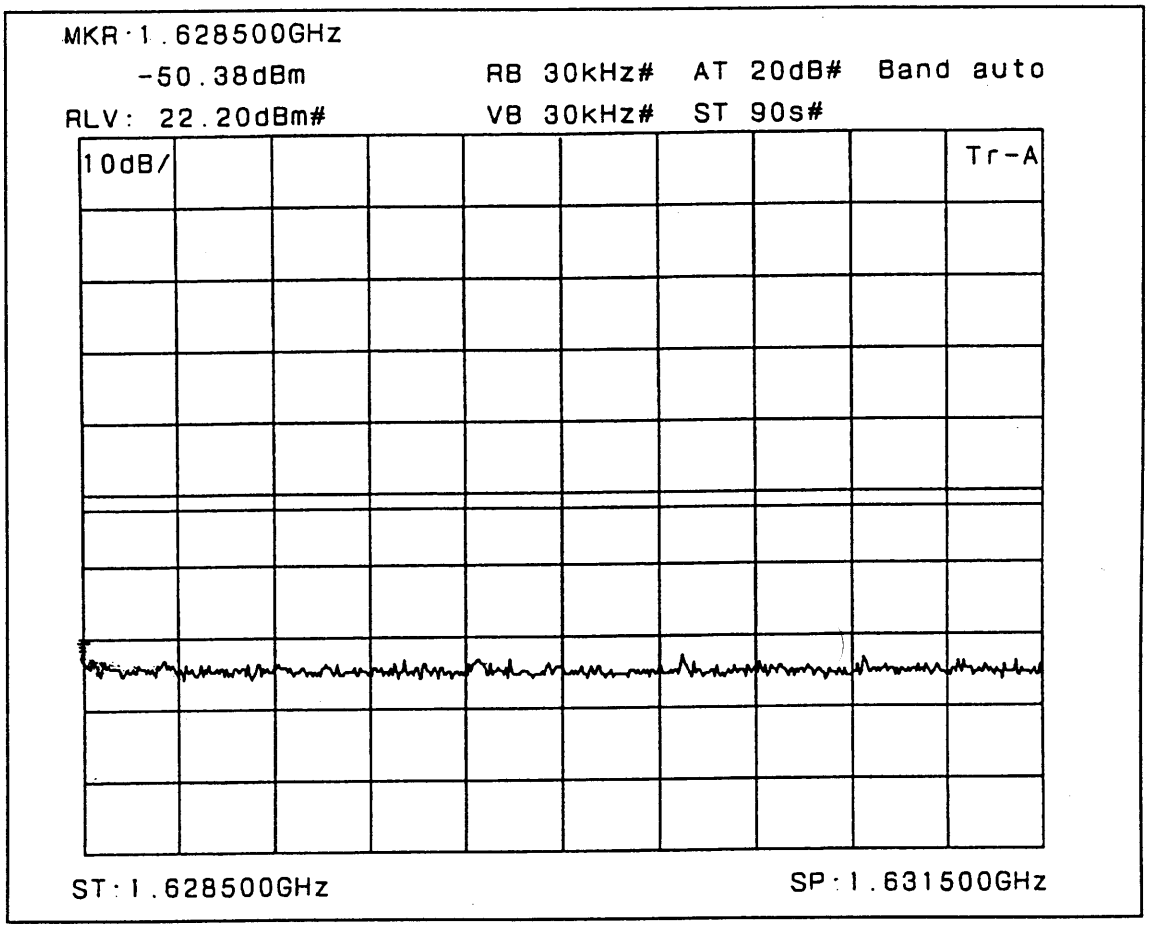
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Highest operating frequency tested: 1625.9792 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1628.5 MHz - 1631.5 MHz
	- 30 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

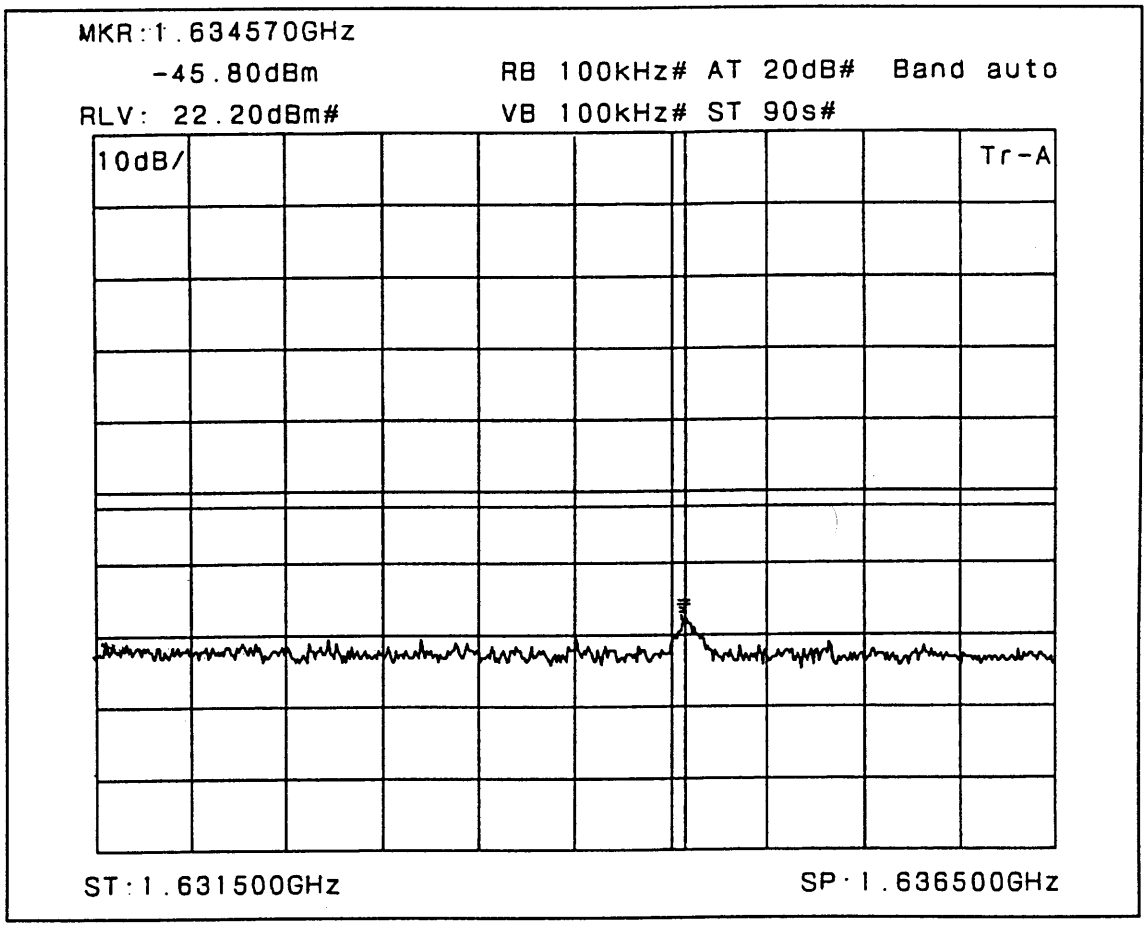
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Highest operating frequency tested: 1625.9792 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1631.5 - 1636.5 MHz
	- 30 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

TYPE TEST ACCORDING TO TBR 41 Issue February 1998

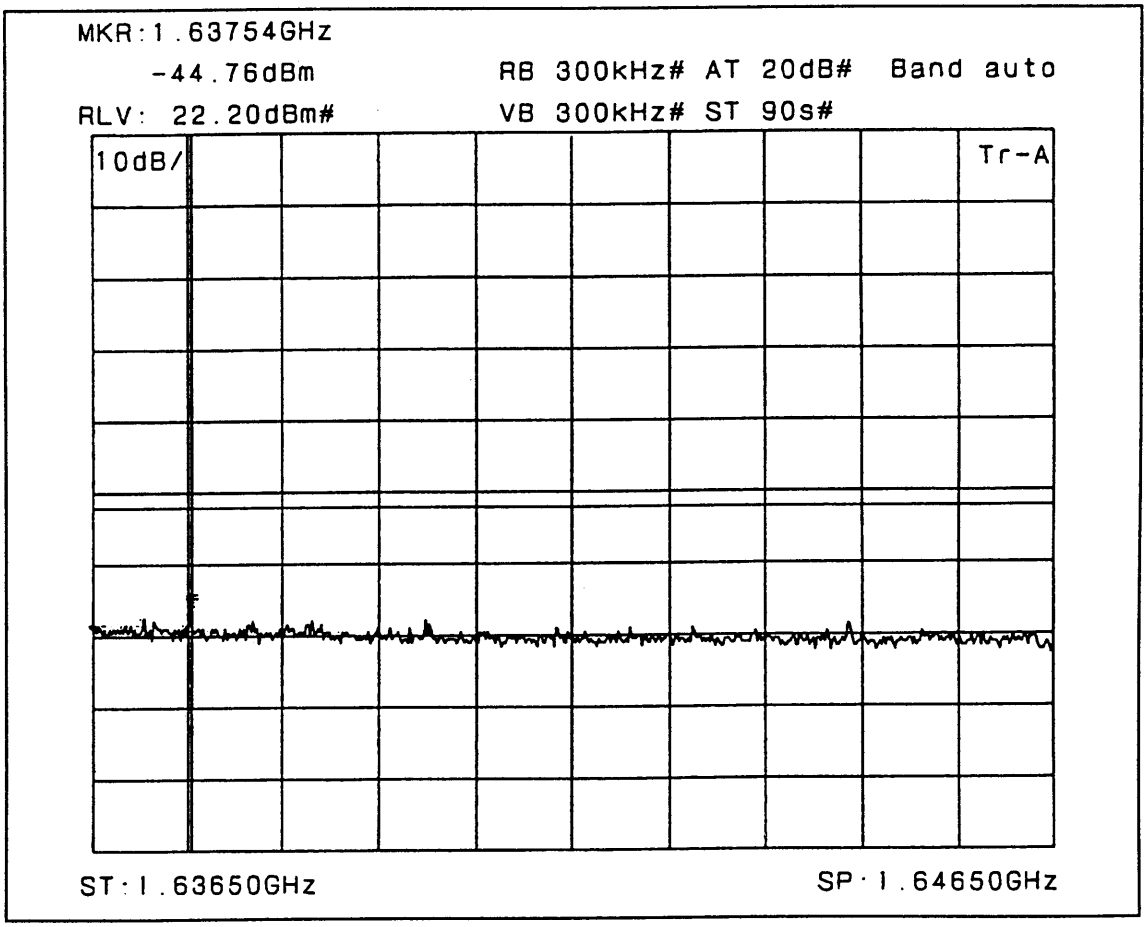
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Highest operating frequency tested: 1625.9792 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1636.5 - 1646.5 MHz
	- 30 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

TYPE TEST ACCORDING TO TBR 41 Issue February 1998

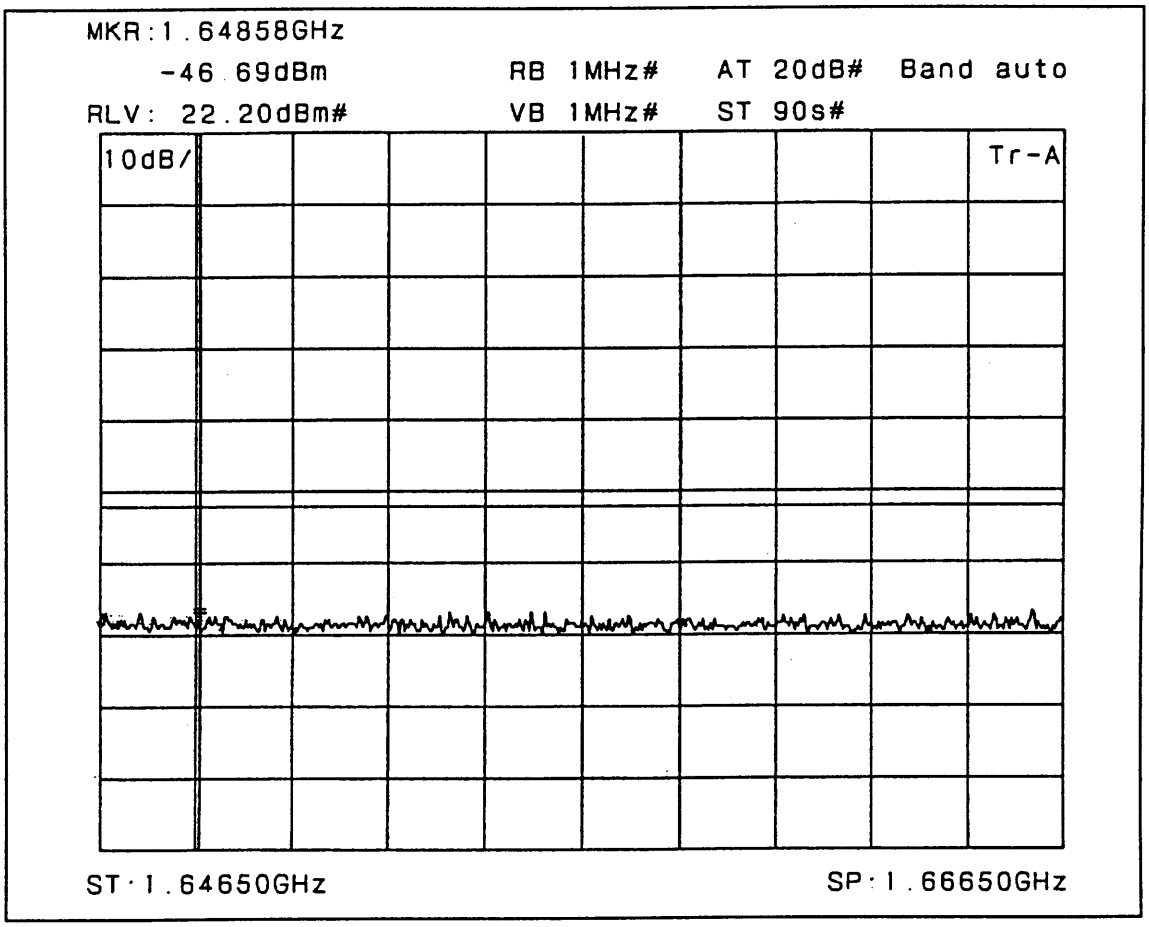
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Highest operating frequency tested: 1625.9792 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1646.5 - 1666.5 MHz
	- 30 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

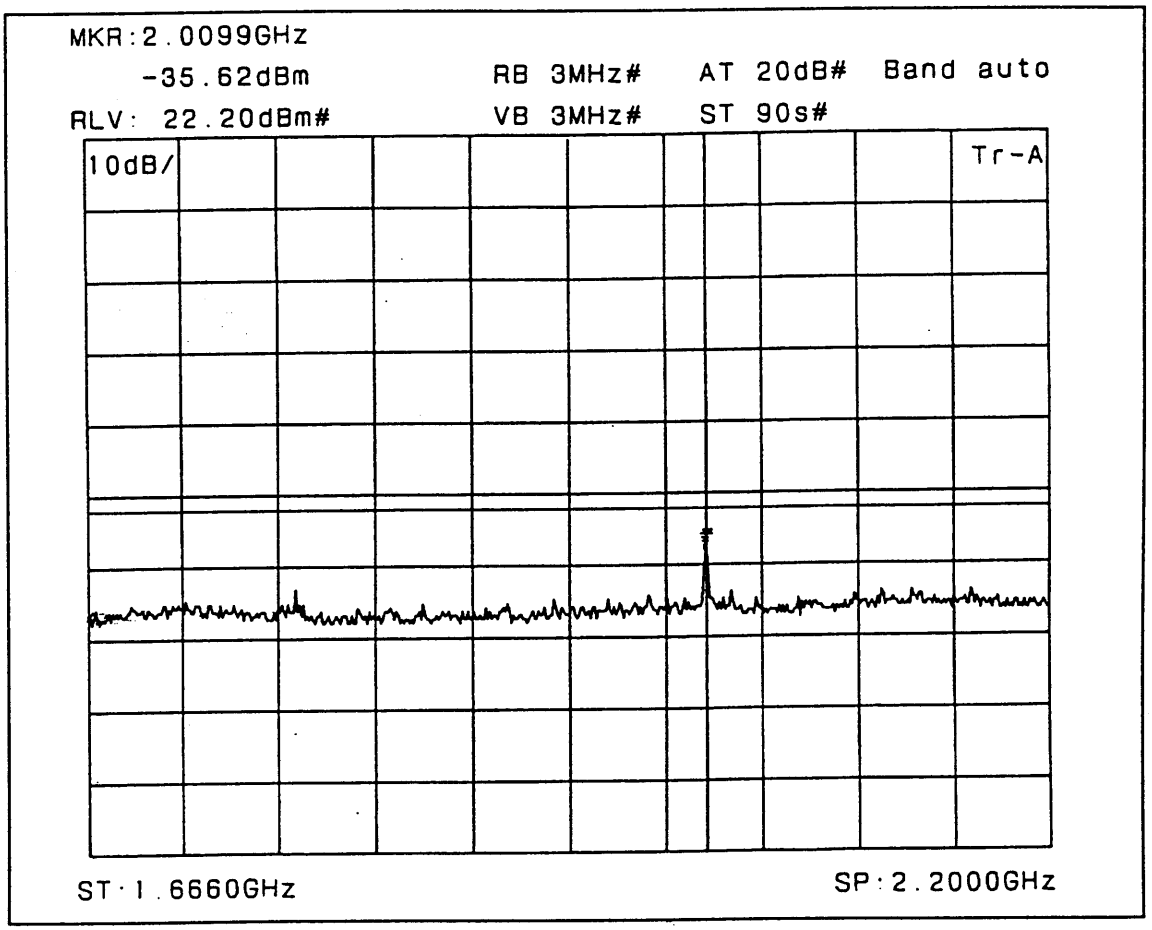
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Highest operating frequency tested: 1625.9792 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1666.5 MHz - 2200 MHz
	- 30 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

TYPE TEST ACCORDING TO TBR 41 Issue February 1998

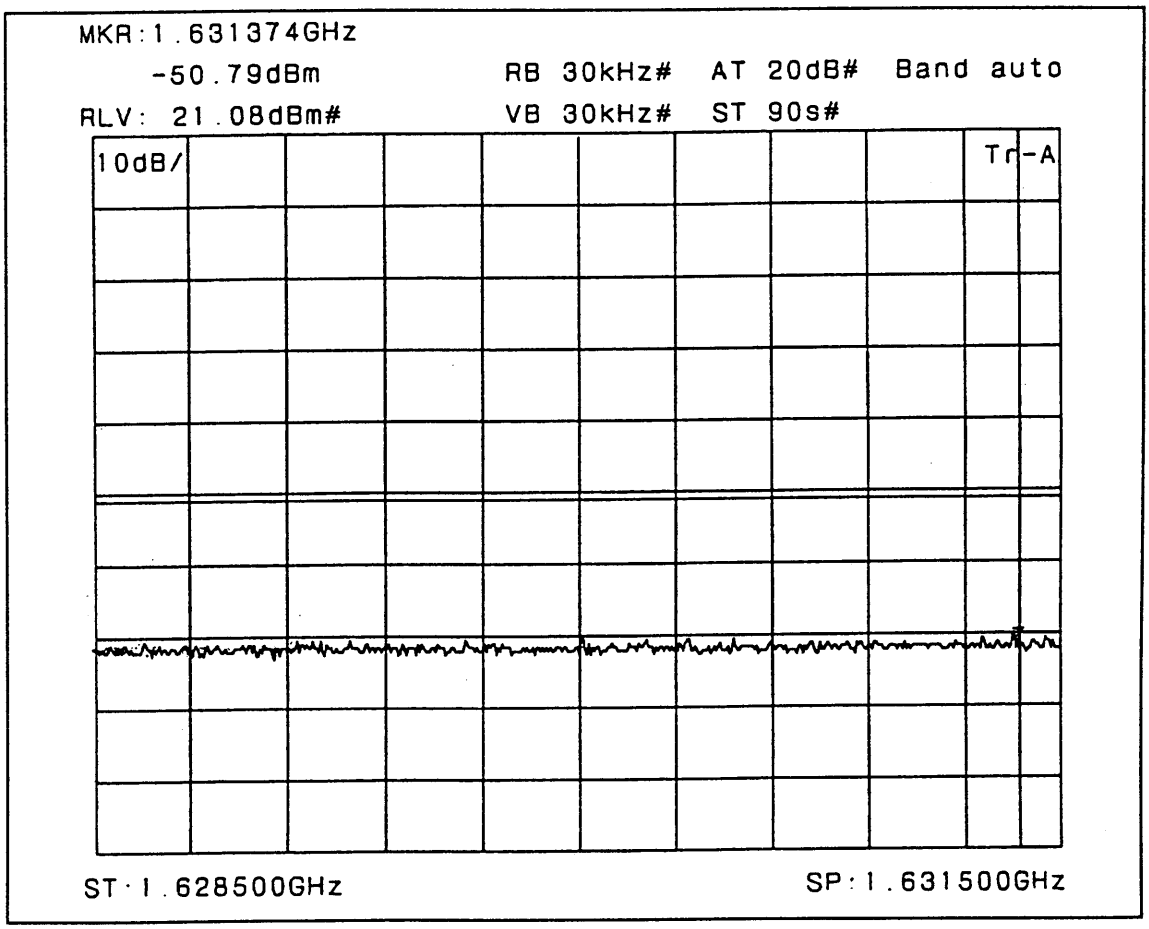
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Lowest operating frequency tested: 1621.6875 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	1628.5 MHz - 1631.5 MHz
	- 30 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

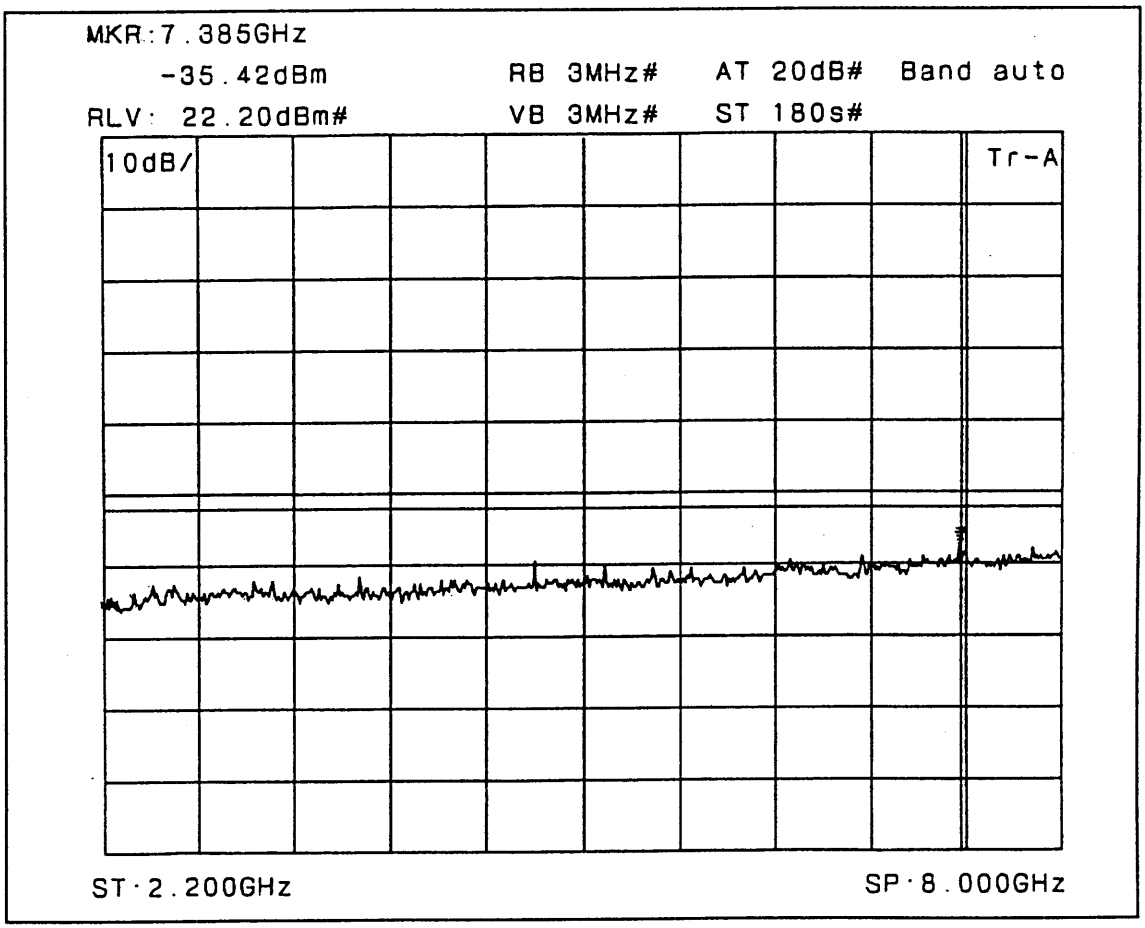
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Highest operating frequency tested: 1625.9792 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	2200 MHz - 12750 MHz
	- 30 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

TYPE TEST ACCORDING TO TBR 41 **Issue February 1998**

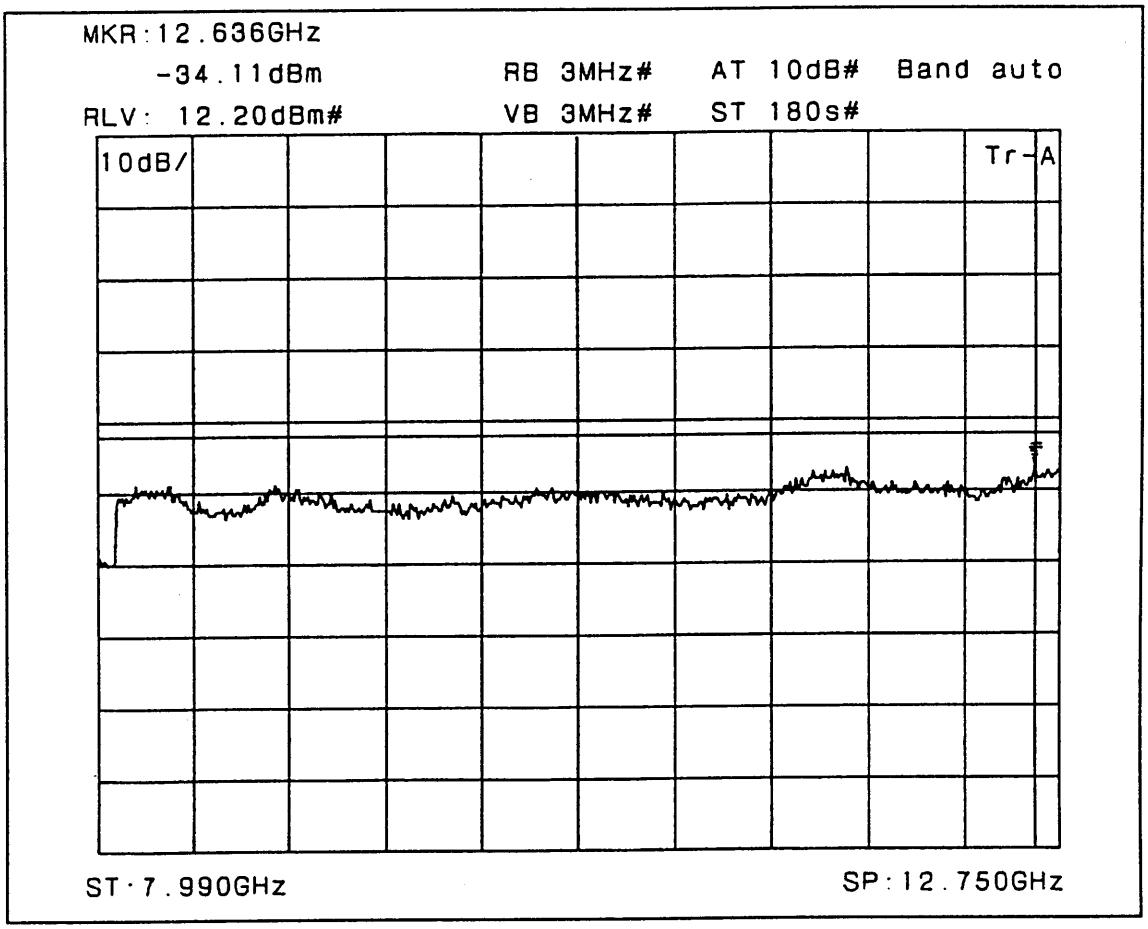
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER OUT-BAND UNWANTED EMISSIONS (EIRP) (Clause 5.4)

Highest operating frequency tested: 1625.9792 MHz

Method of measurement: conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 5.5)	2200 MHz - 12750 MHz
	- 30 dBm EIRP

Measuring equipment used: *2, 8, 13 (see list page 85).*

TYPE TEST ACCORDING TO TBR 41 Issue February 1998

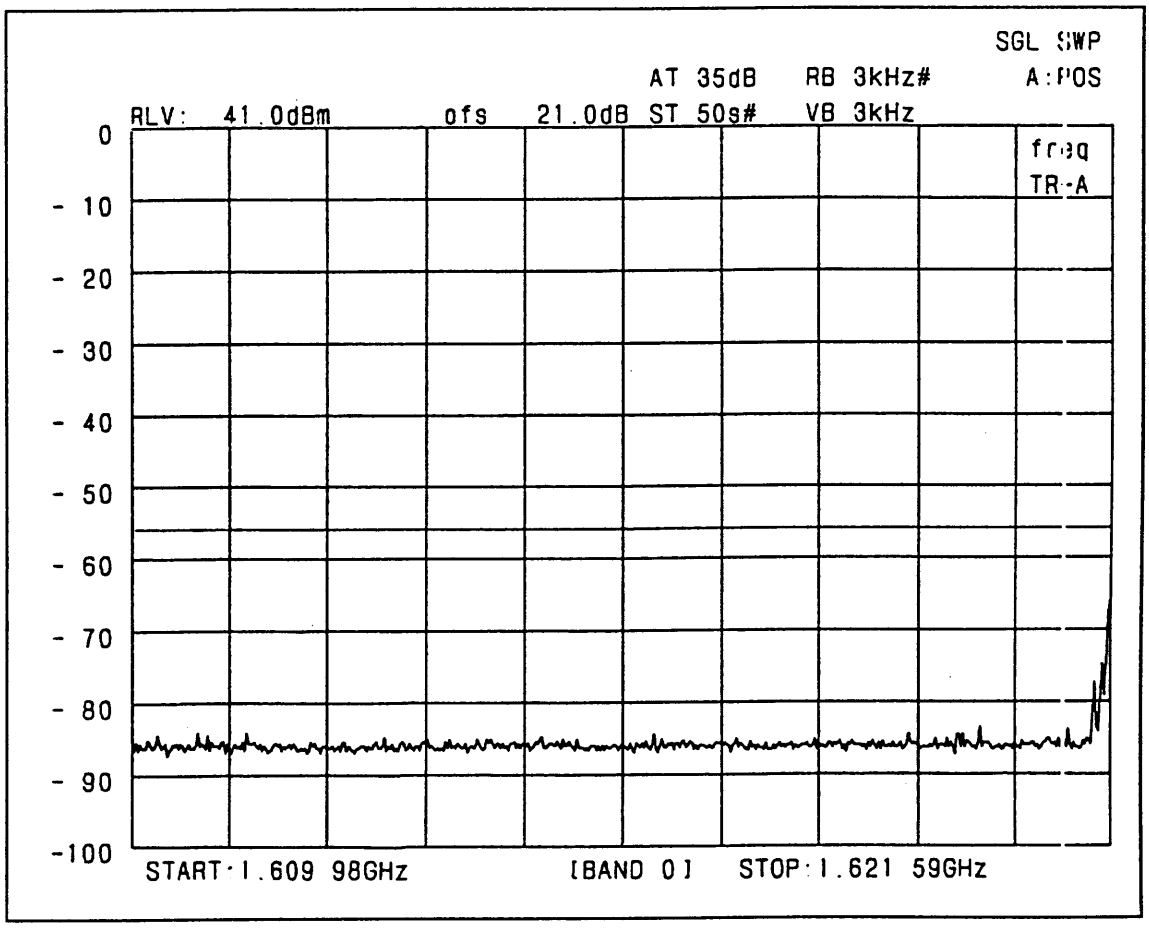
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 23 °C Relative humidity: 55 %

TRANSMITTER IN-BAND UNWANTED EMISSIONS (EIRP) (Clause 6.4)

Lowest operating frequency tested: 1621.6875 MHz

Method of measurement : conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 6.5)	1.61000 - 1.62158 GHz
	- 26 dBm EIRP (most severe limit of TBR 41, table 3)

Measuring equipment used: *1, 8, 13 (see list page 85).*

Test Form TBR 41

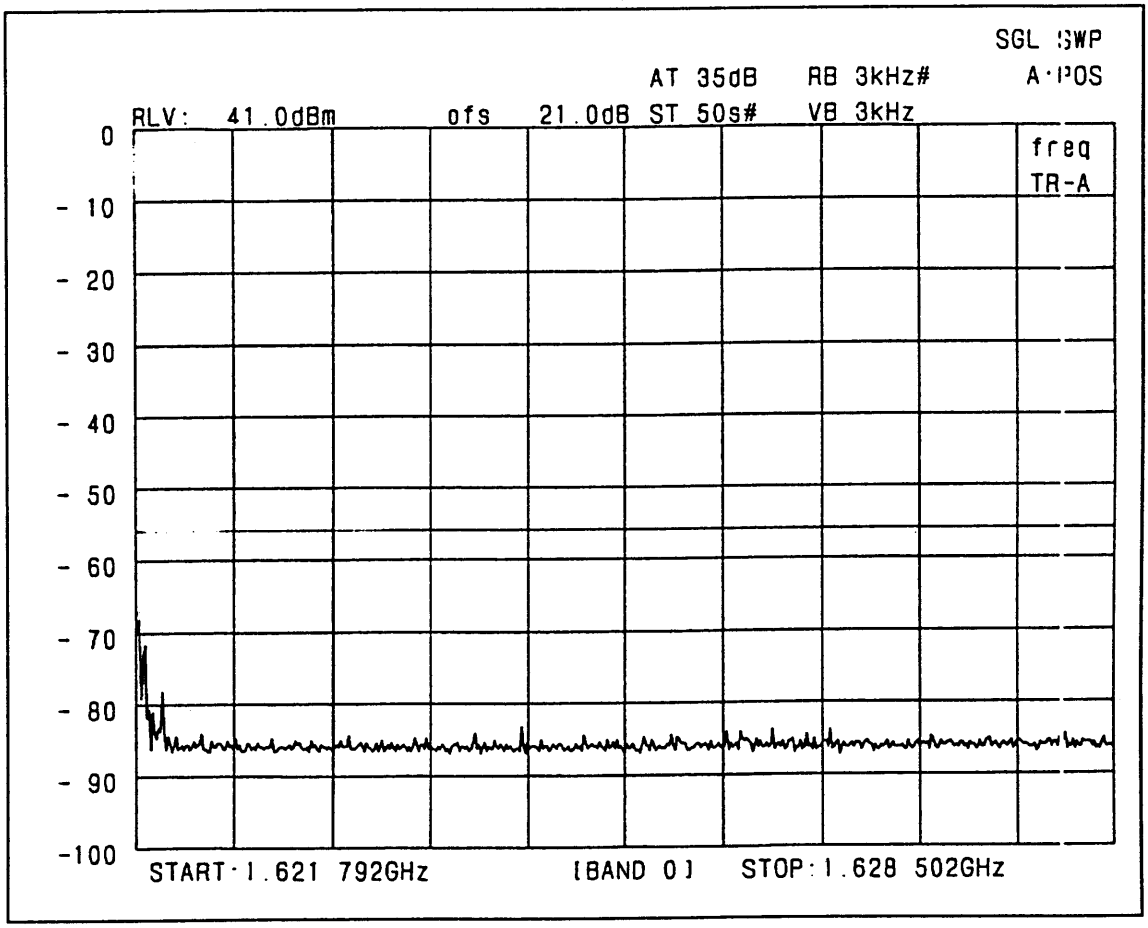
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER IN-BAND UNWANTED EMISSIONS (EIRP) (Clause 6.4)

Lowest operating frequency tested: 1621.6875 MHz

Method of measurement : conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 6.5)	1.62179 - 1.62650 GHz
	- 26 dBm EIRP (most severe limit of TBR 41, table 3)

Measuring equipment used: *1, 8, 13 (see list page 85).*

TEST FORM Report issued: 28 July 1998

TYPE TEST ACCORDING TO TBR 41 **Issue February 1998**

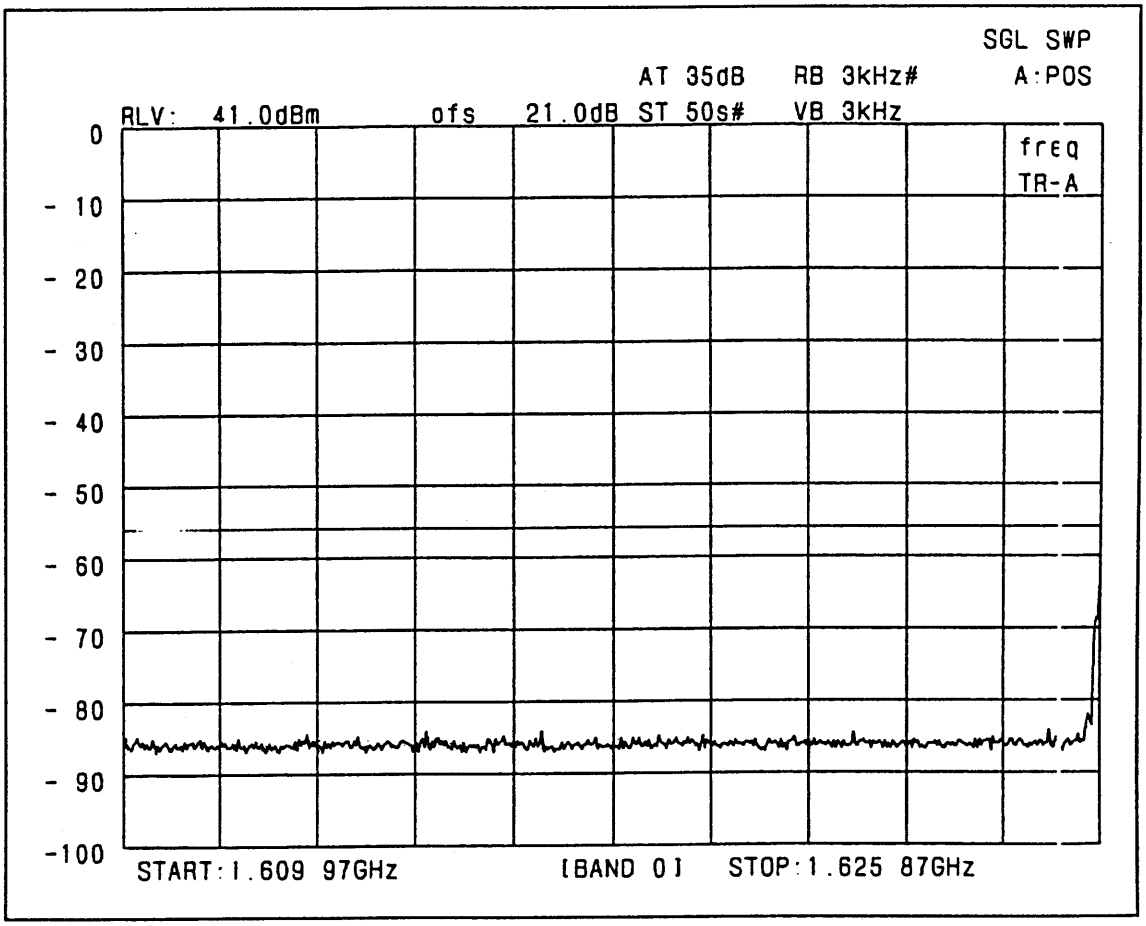
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER IN-BAND UNWANTED EMISSIONS (EIRP) (Clause 6.4)

Highest operating frequency tested: 1625.9792 MHz

Method of measurement : conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 6.5)	1.61000 - 1.62587 GHz
	- 26 dBm EIRP (most severe limit of TBR 41, table 3)

Measuring equipment used: *1, 8, 13 (see list page 85).*

TEST FORM Report issued: 28 July 1998

TYPE TEST ACCORDING TO TBR 41 **Issue February 1998**

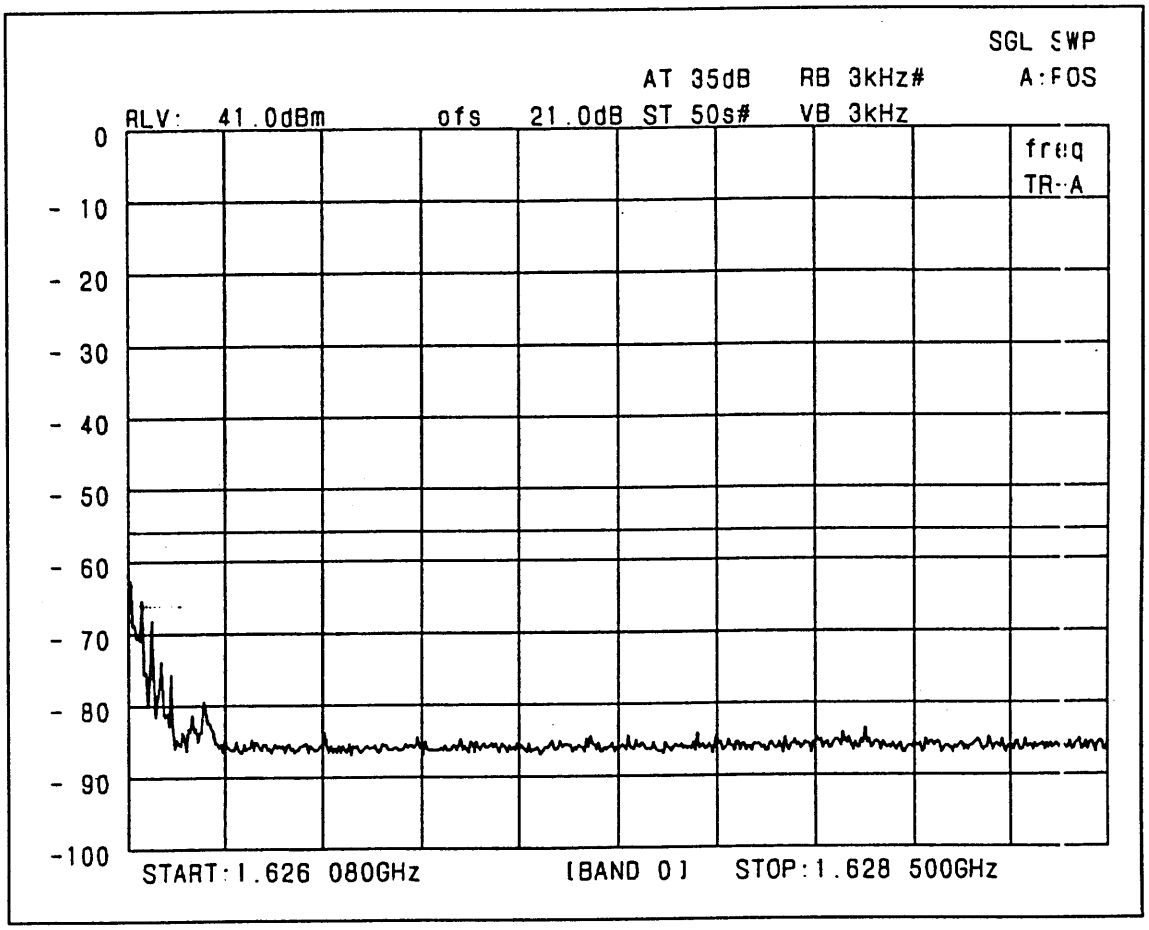
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *23* °C Relative humidity: *55* %

TRANSMITTER IN-BAND UNWANTED EMISSIONS (EIRP) (Clause 6.4)

Highest operating frequency tested: 1625.9792 MHz

Method of measurement : conducted; peak



Measuring uncertainty	*1.50 dB*

LIMIT (Clause 6.5)	1.62608 - 1.62650 GHz
	- 26 dBm EIRP (most severe limit of TBR 41, table 3)

Measuring equipment used: *1, 8, 13 (see list page 85).*

Section 6. Field Strength of Spurious

NAME OF TEST: Field Strength of Spurious Emissions	PARA. NO.: 2.917(e)

Test Results: Complies.
The maximum E.I.R.P. is -61.3 dBW or -31.3 dBm.

Test Data: See attached graphs

Resolution Bandwidth: 1 MHz
Detector: Average

TEST FORM Report issued: 28 July 1998

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Satellite Earth Stations and Systems (SES);
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Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Lowest operating frequency tested: CH 137 = 1621.6875 MHz
Highest operating frequency tested: CH 240 = 1625.9792 MHz

FREQUENCY (MHz)	SPURIOUS EMISSION LEVEL (dBW)		
	CH 137	CH --	CH 240
162.000	*- 83.4*	--	*- 84.2*
198.000	*- 79.4*	--	*- 80.0*
3243.340	*- 63.5*	--	--
3251.130	--	--	*- 61.3*

All other detected unwanted emissions were >10 dB below their applicable limits

Measuring uncertainty	*5.00 dB*

LIMIT	30 MHz - 4 GHz
	see TBR 41, table 2

Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85)*

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Terminal essential requirements for Mobile Earth Stations (MESs)
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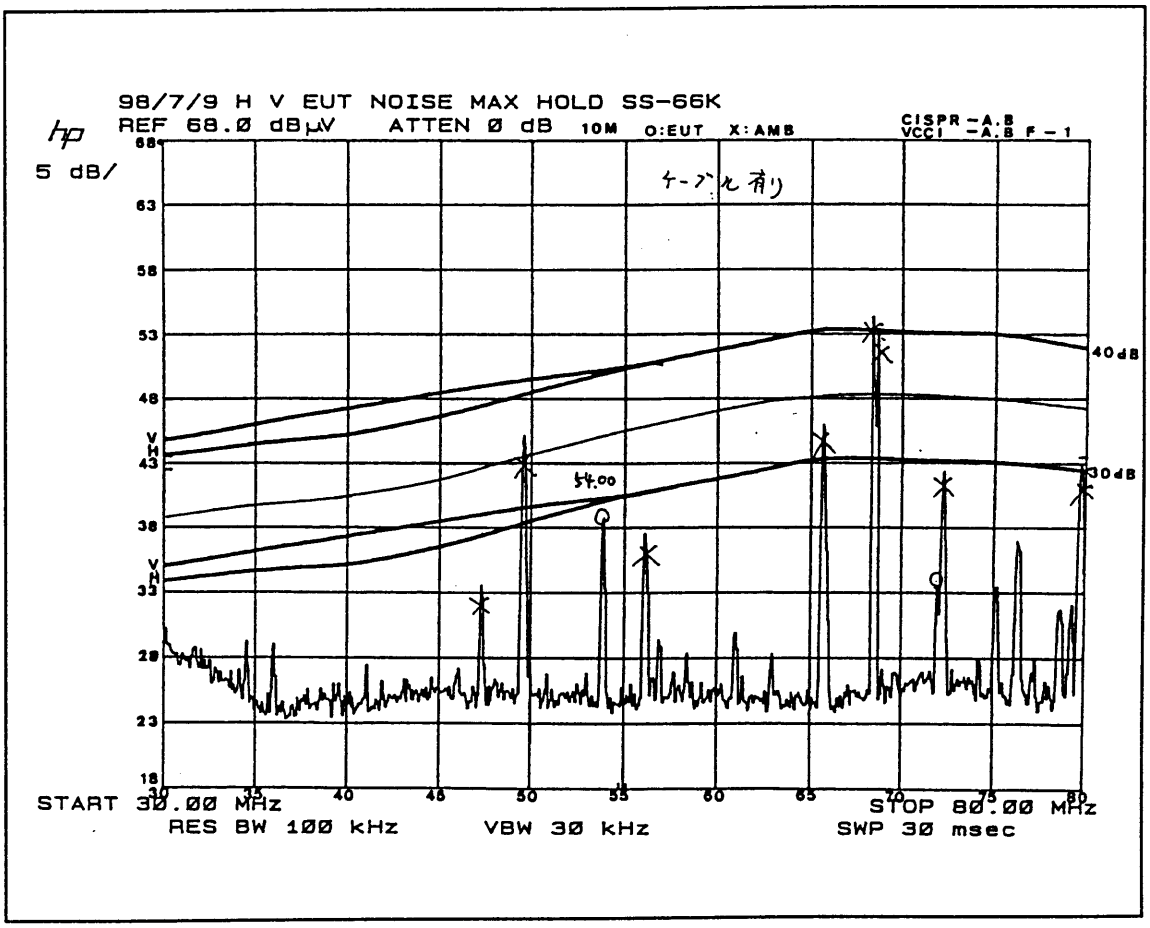
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: horizontal polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	30 MHz - 1 GHz
	see TBR 41, table 2

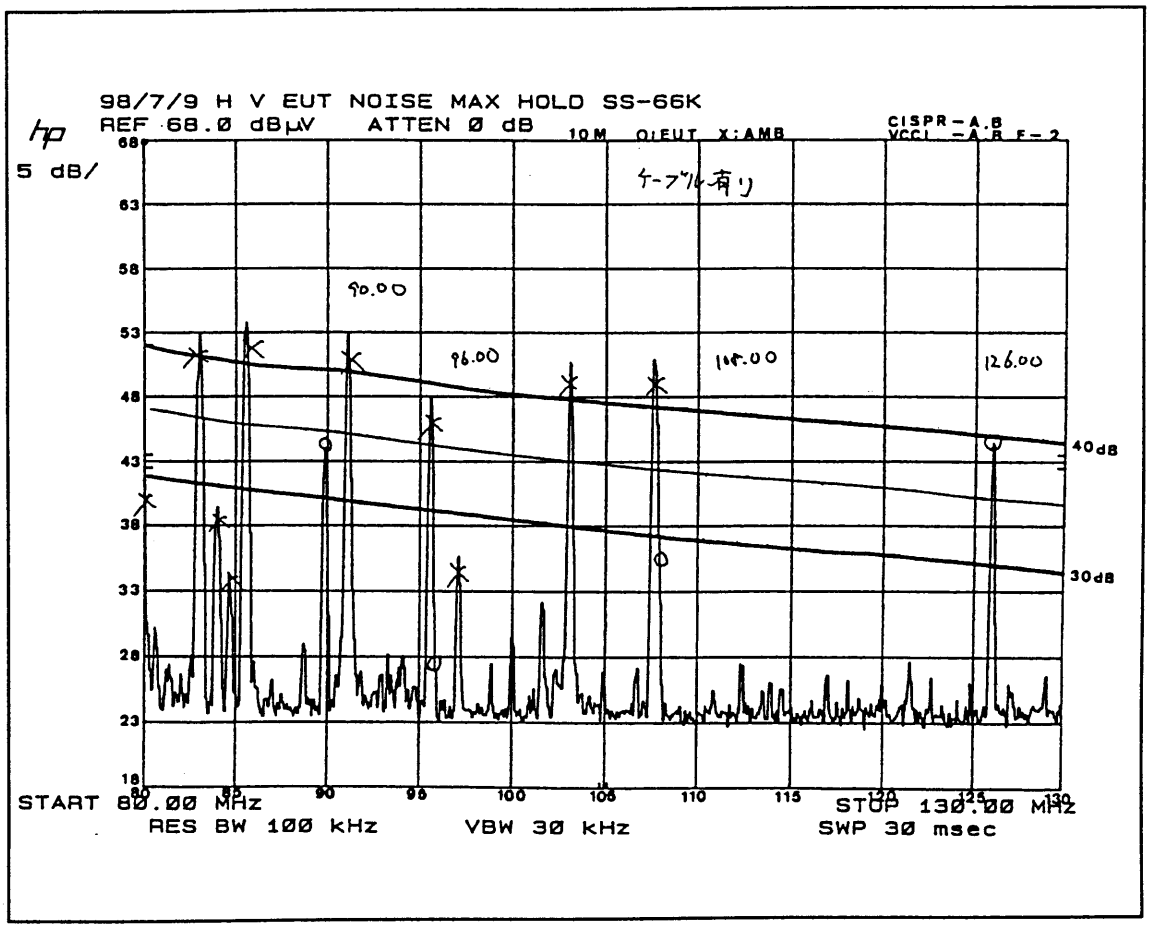
Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: horizontal polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	30 MHz - 1 GHz
	see TBR 41, table 2

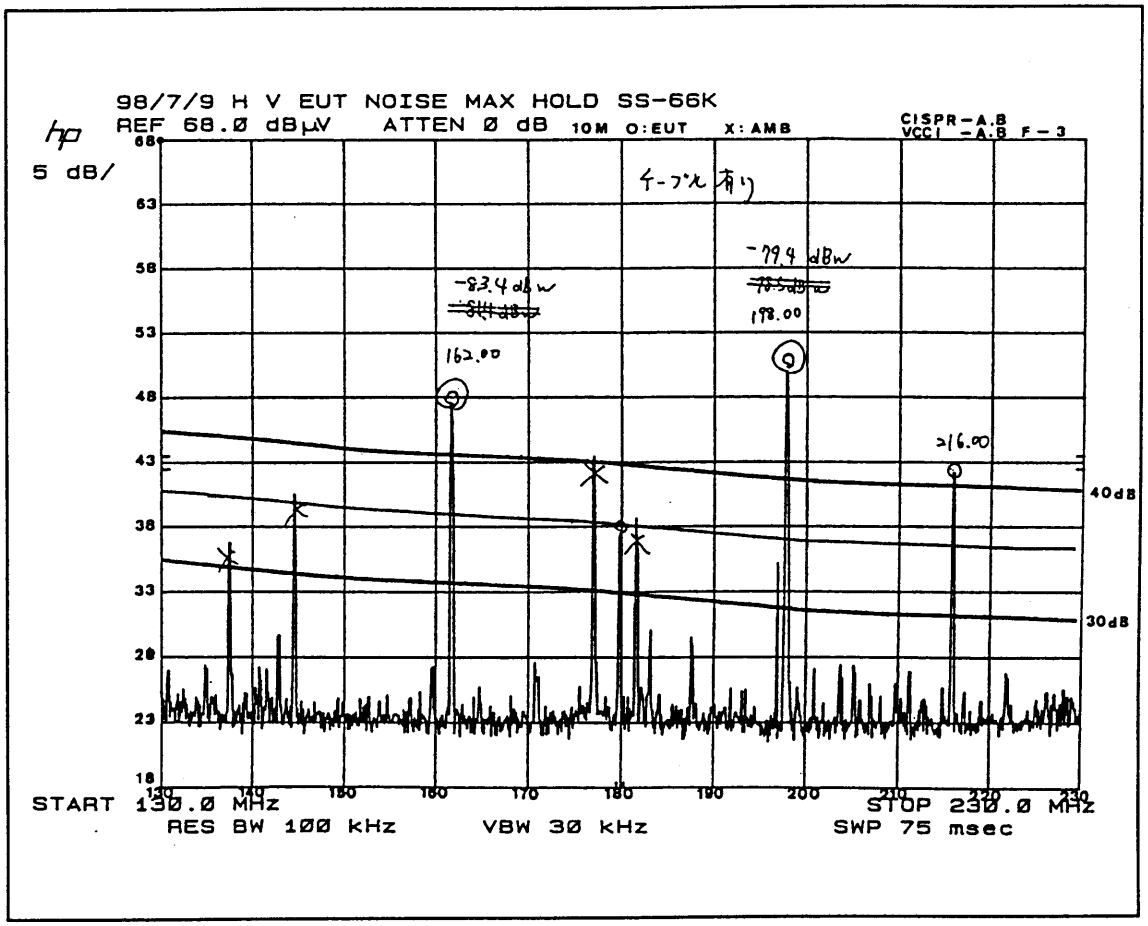
Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: horizontal polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	30 MHz - 1 GHz
	see TBR 41, table 2

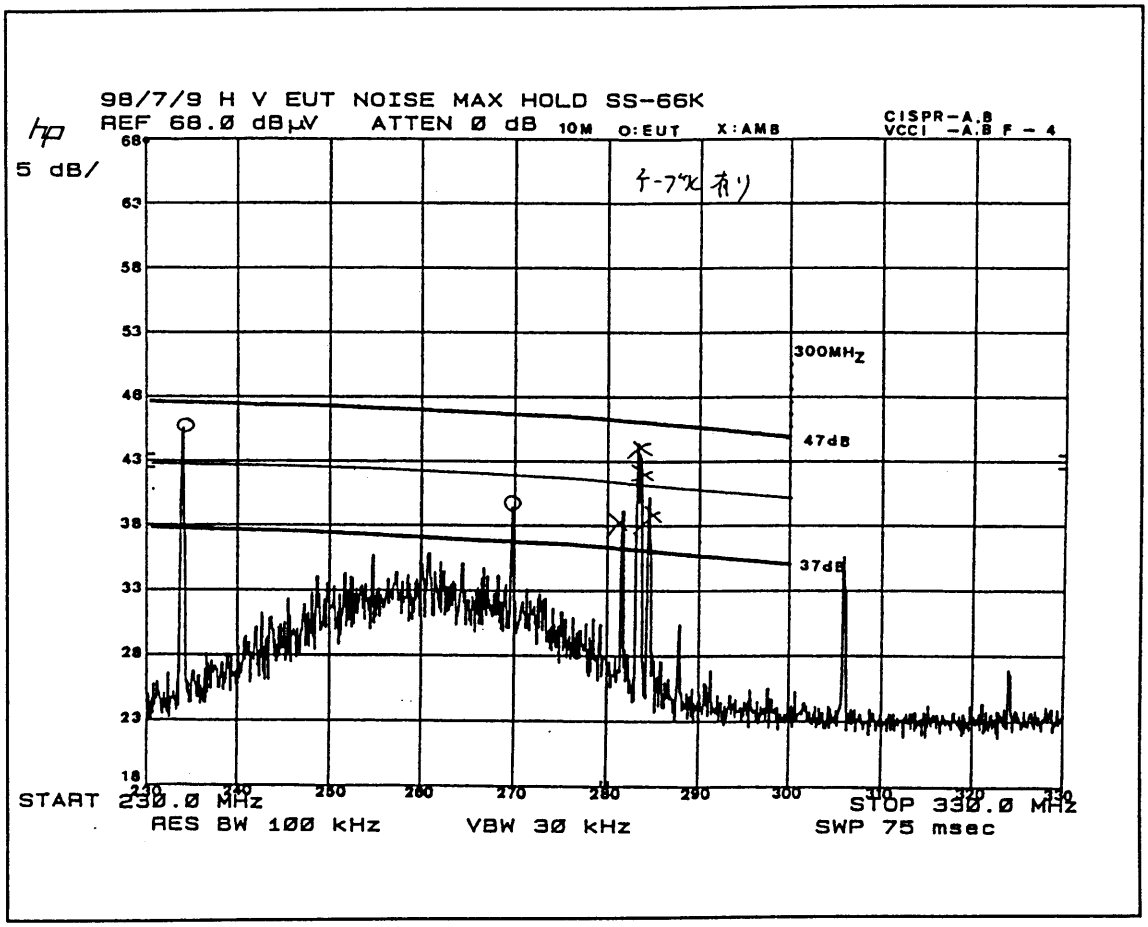
Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: horizontal polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	30 MHz- 1 GHz
	see TBR 41, table 2

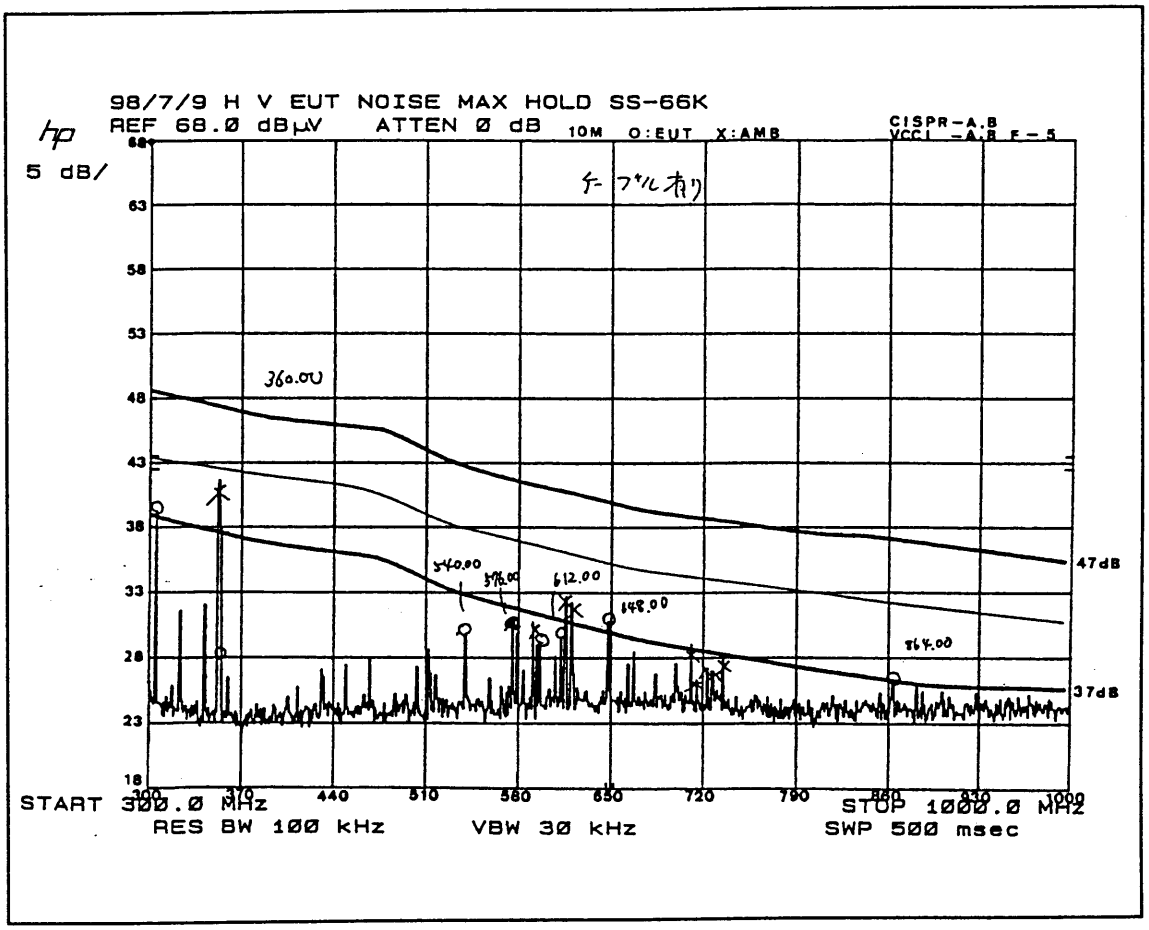
Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: horizontal polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	30 MHz - 1 GHz
	see TBR 41, table 2

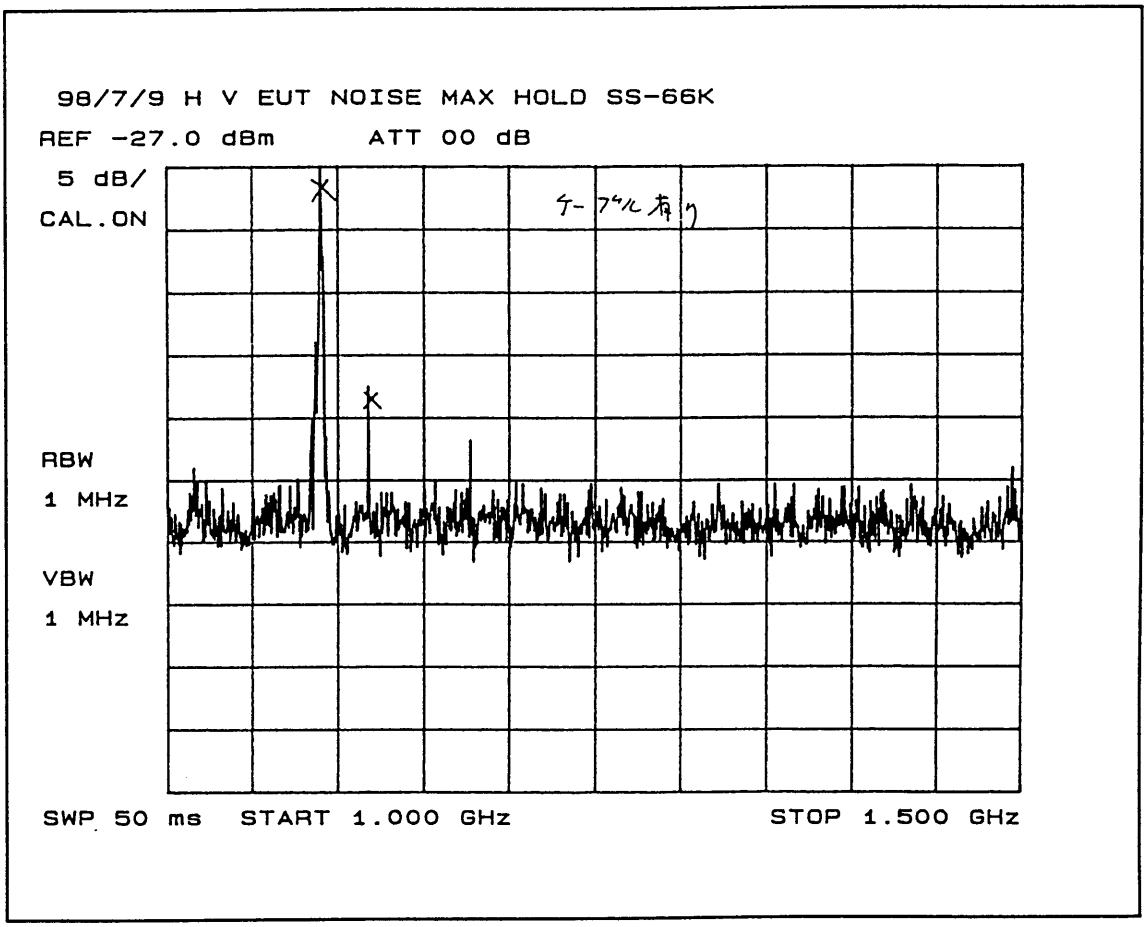
Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: horizontal polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	1 GHz - 1.559 GHz
	see TBR 41, table 2

Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

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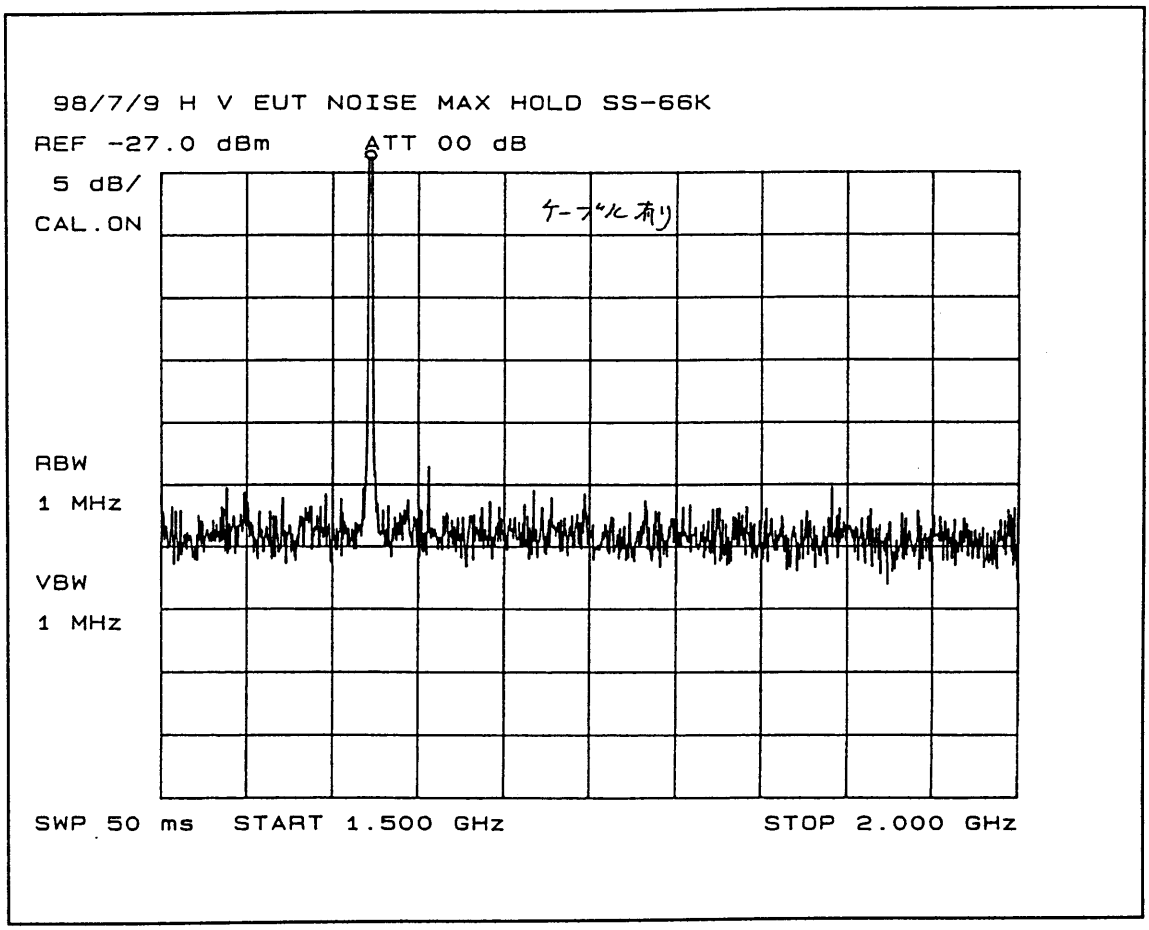
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: horizontal polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	1.559 GHz - 2.2 GHz
	see TBR 41, table 2

Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

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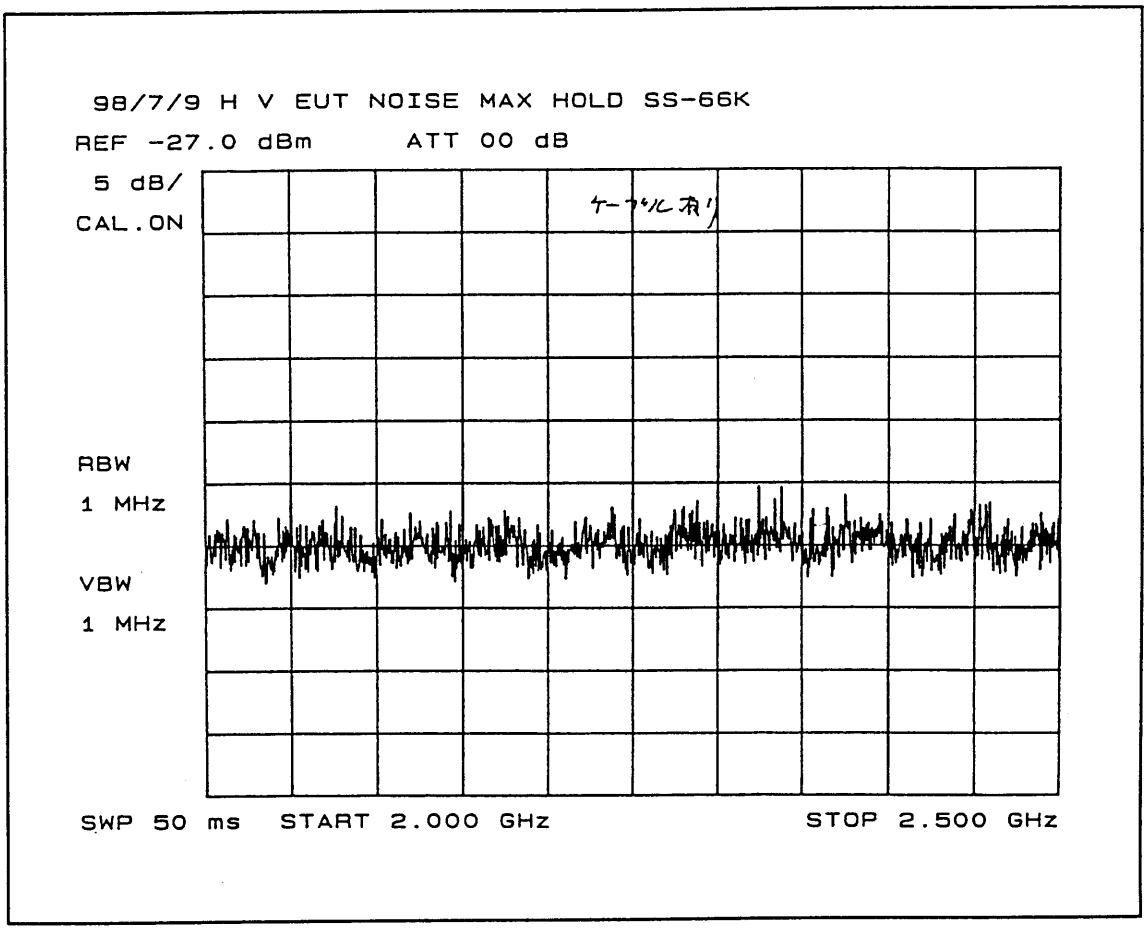
incl. handheld earth stations for operation in a Satellite-Personal
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: horizontal polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	1.6665 GHz - 2.2 GHz - 12.750 GHz
	see TBR 41, table 2

Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

Satellite Earth Stations and Systems (SES);
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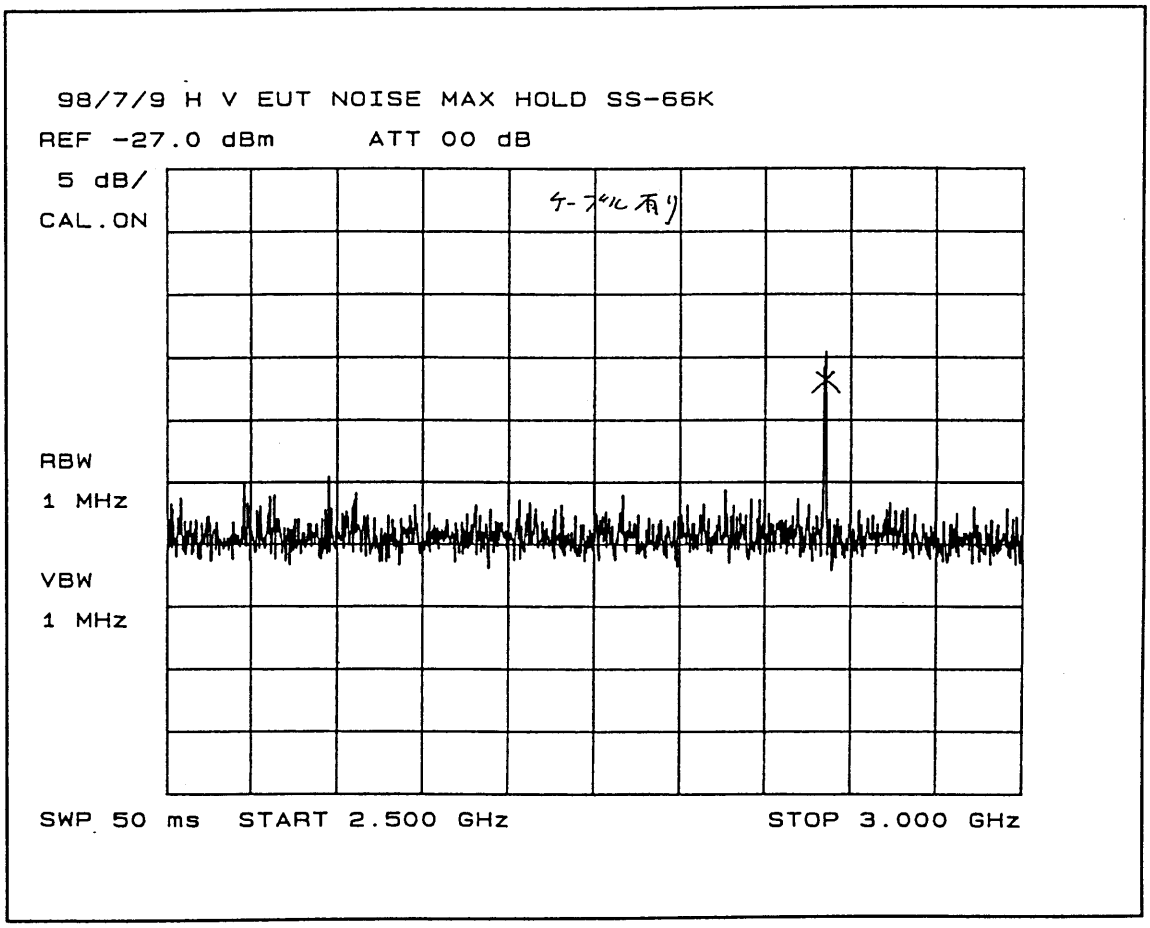
Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: horizontal polarized antenna - sample at sub-band 18/ch. 1



Remark: An "X"-Marker indicates ambient signal

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	2.2 GHz - 12.750 GHz
	see TBR 41, table 2

Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

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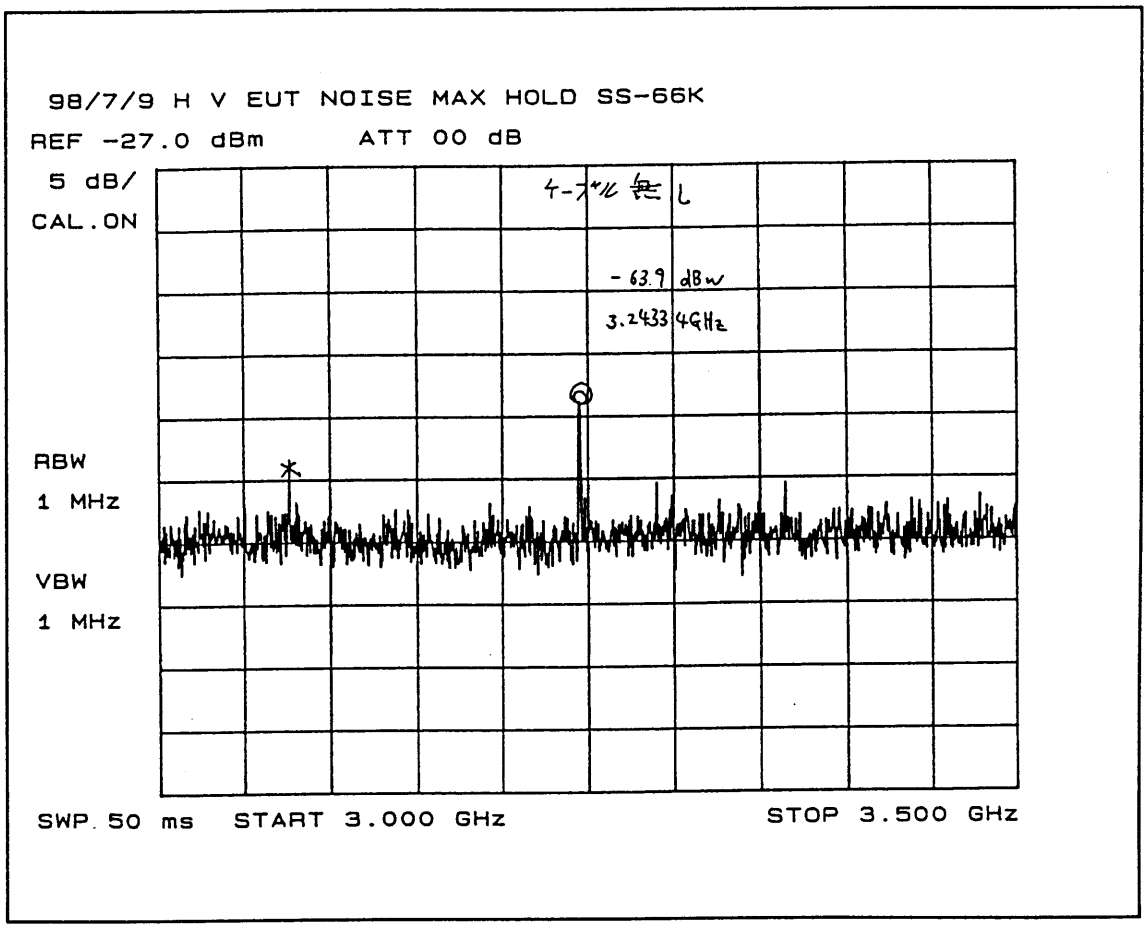
Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: horizontal polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	2.2 GHz - 12.750 GHz
	see TBR 41, table 2

Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

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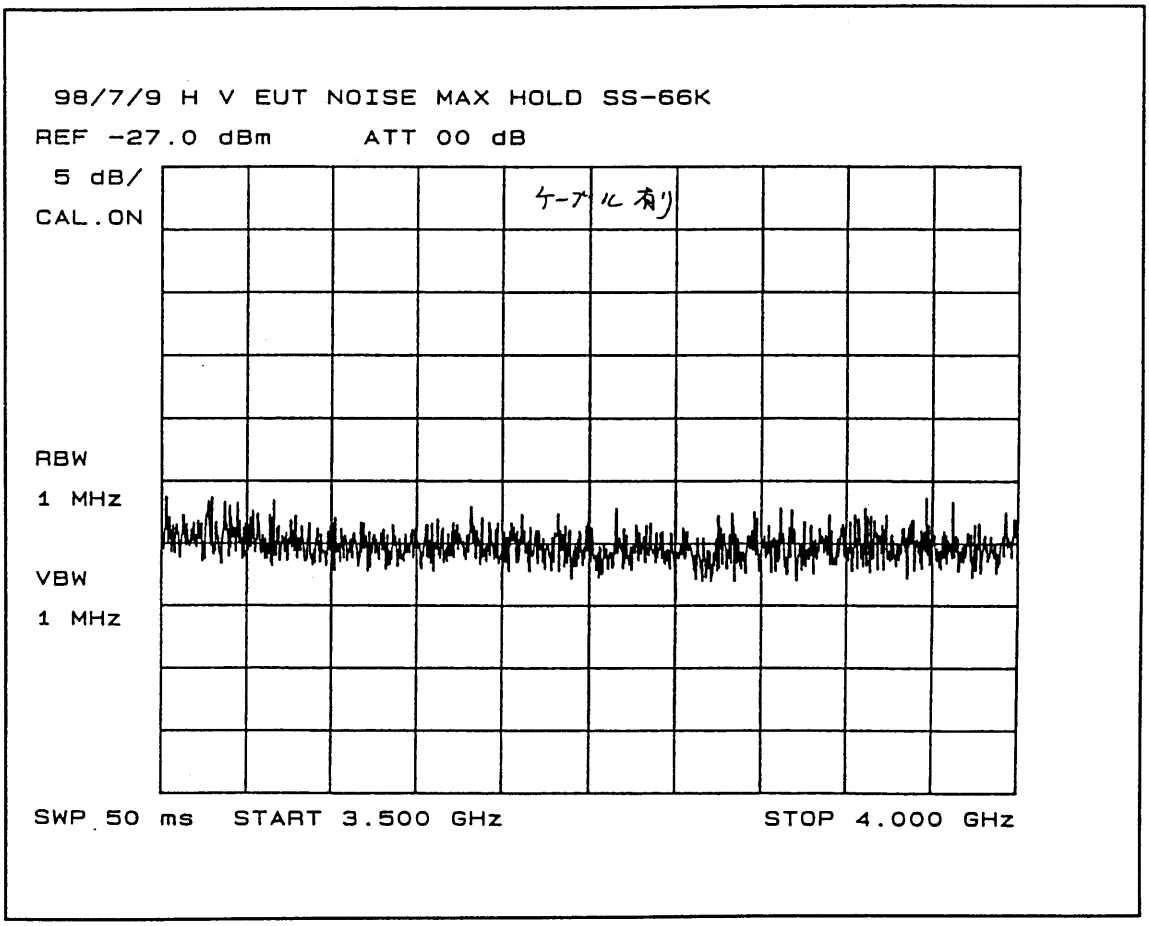
incl. handheld earth stations for operation in a Satellite-Personal
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: horizontal polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	2.2 GHz - 12.750 GHz
	see TBR 41, table 2

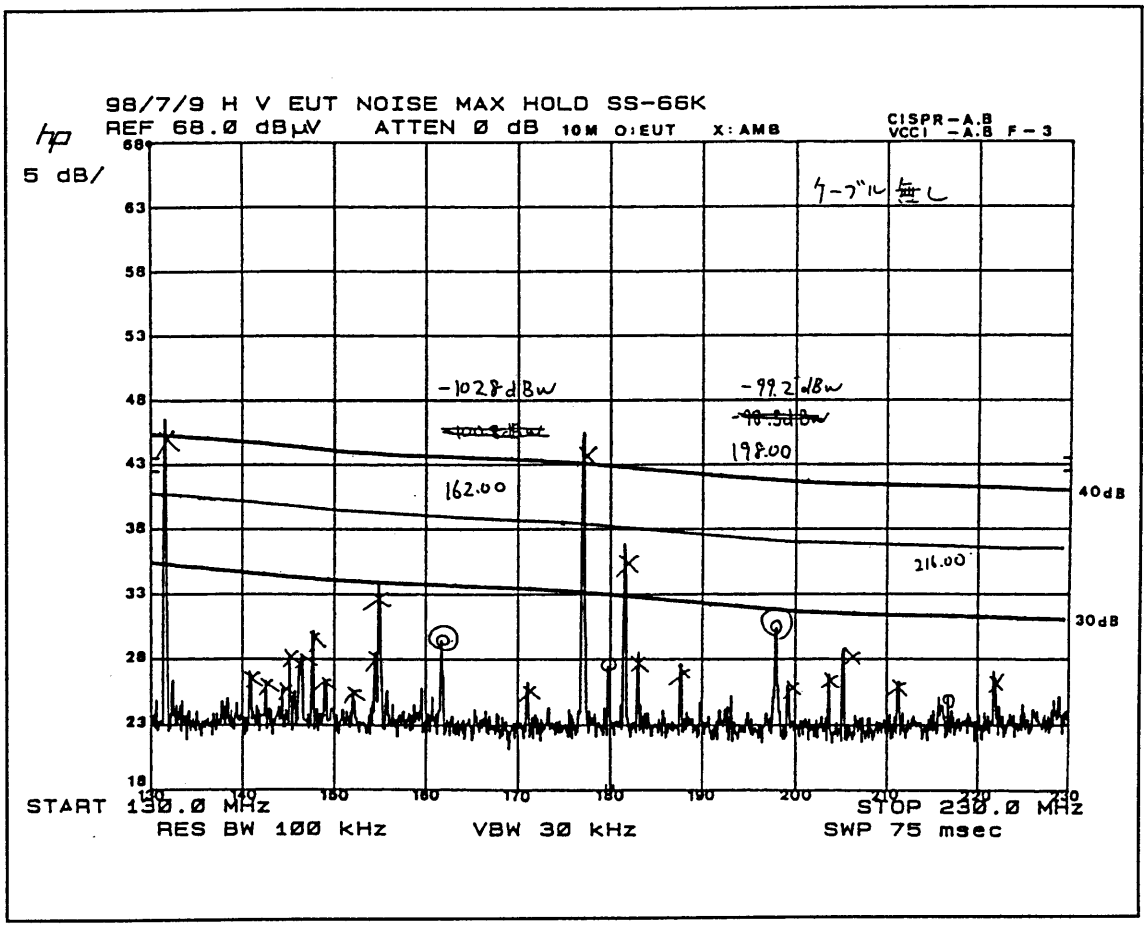
Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: horizontal polarized antenna - sample at sub-band 30/ch. 8



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	30 MHz - 1 GHz
	see TBR 41, table 2

Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

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Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
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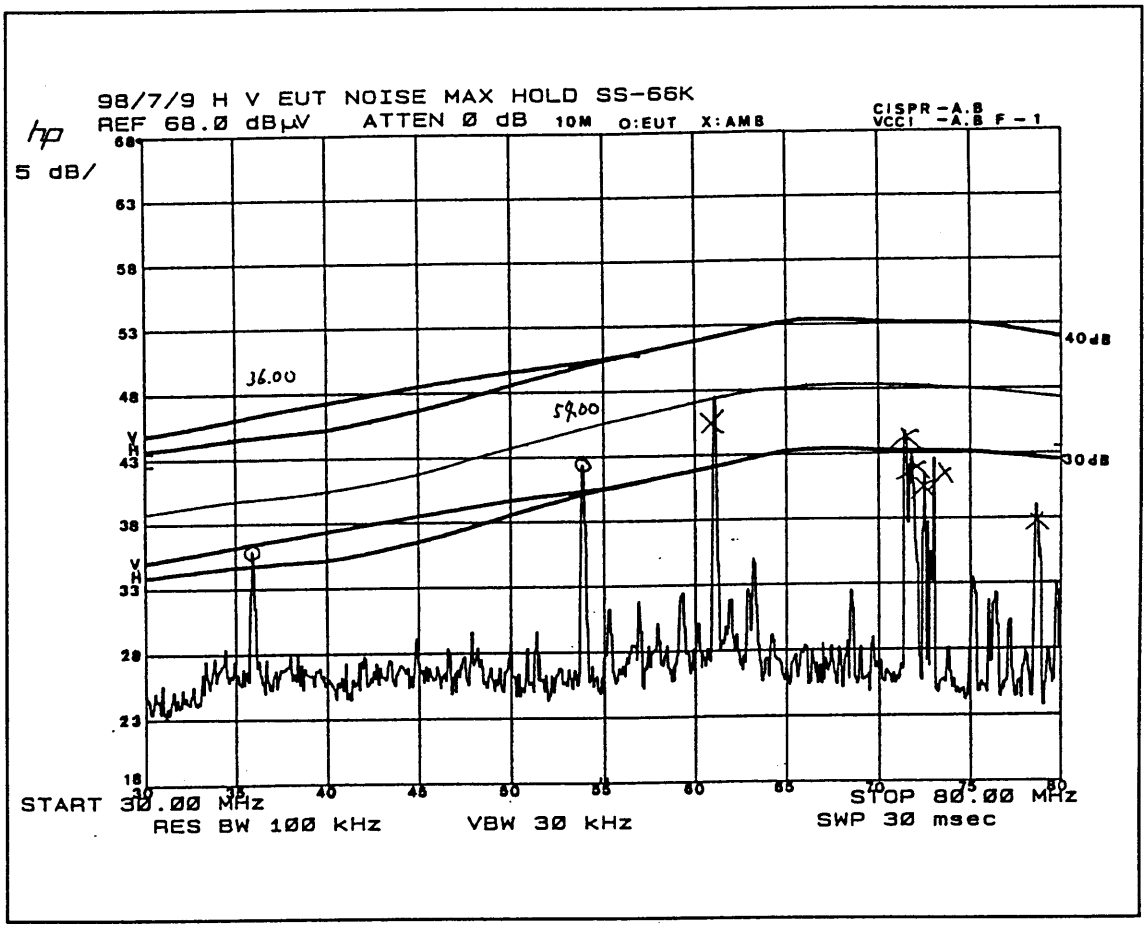
Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: vertical polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	30 MHz - 1 GHz
	see TBR 41, table 2

Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

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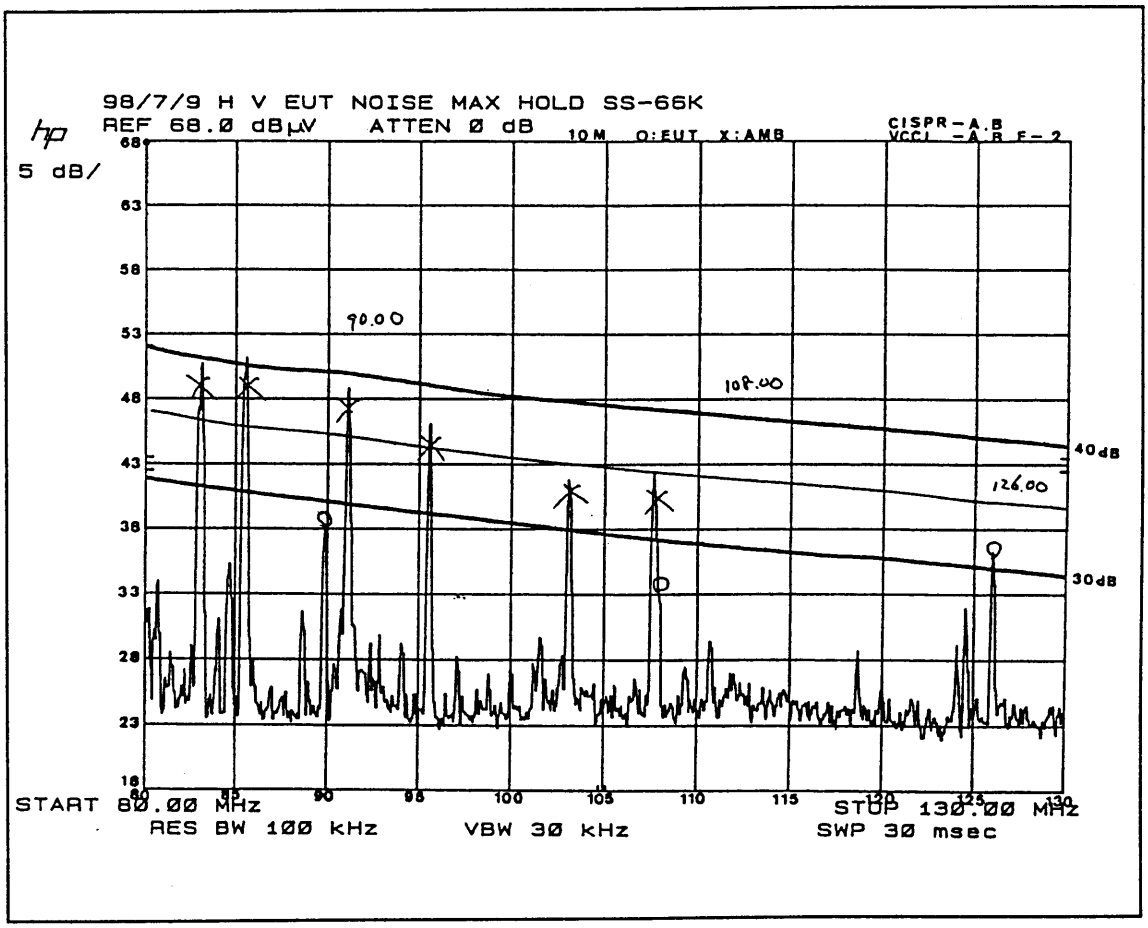
Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: vertical polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	30 MHz - 1 GHz
	see TBR 41, table 2

Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
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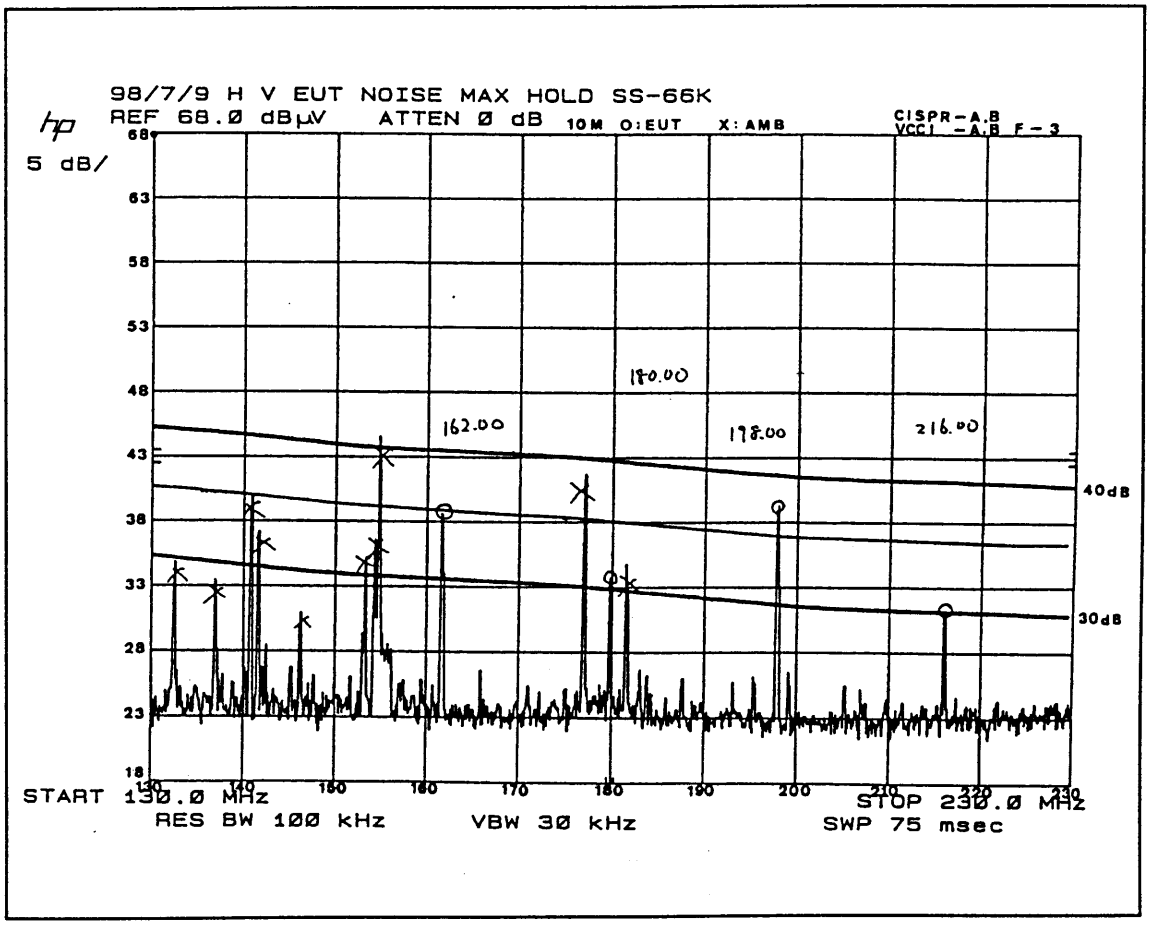
Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: vertical polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	30 MHz - 1 GHz
	see TBR 41, table 2

Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

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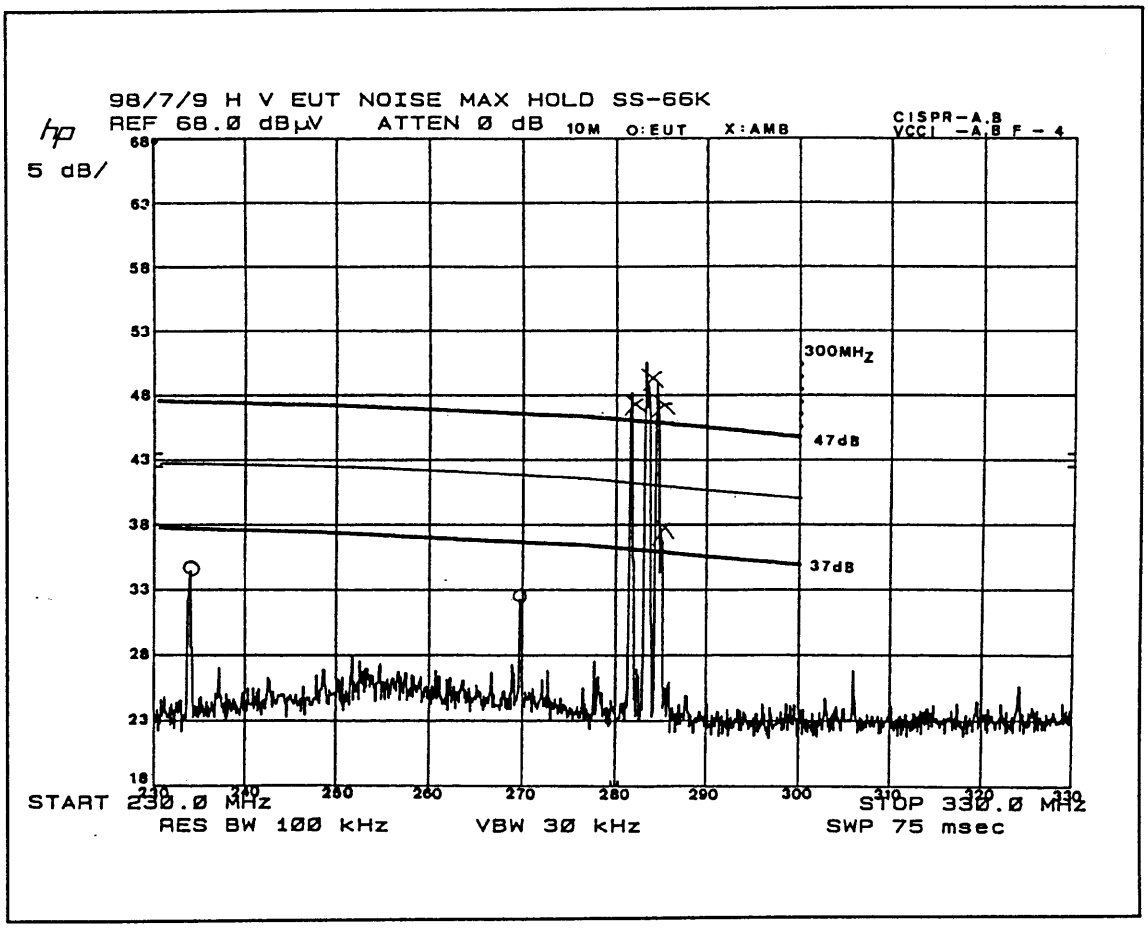
Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: vertical polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	30 MHz - 1 GHz
	see TBR 41, table 2

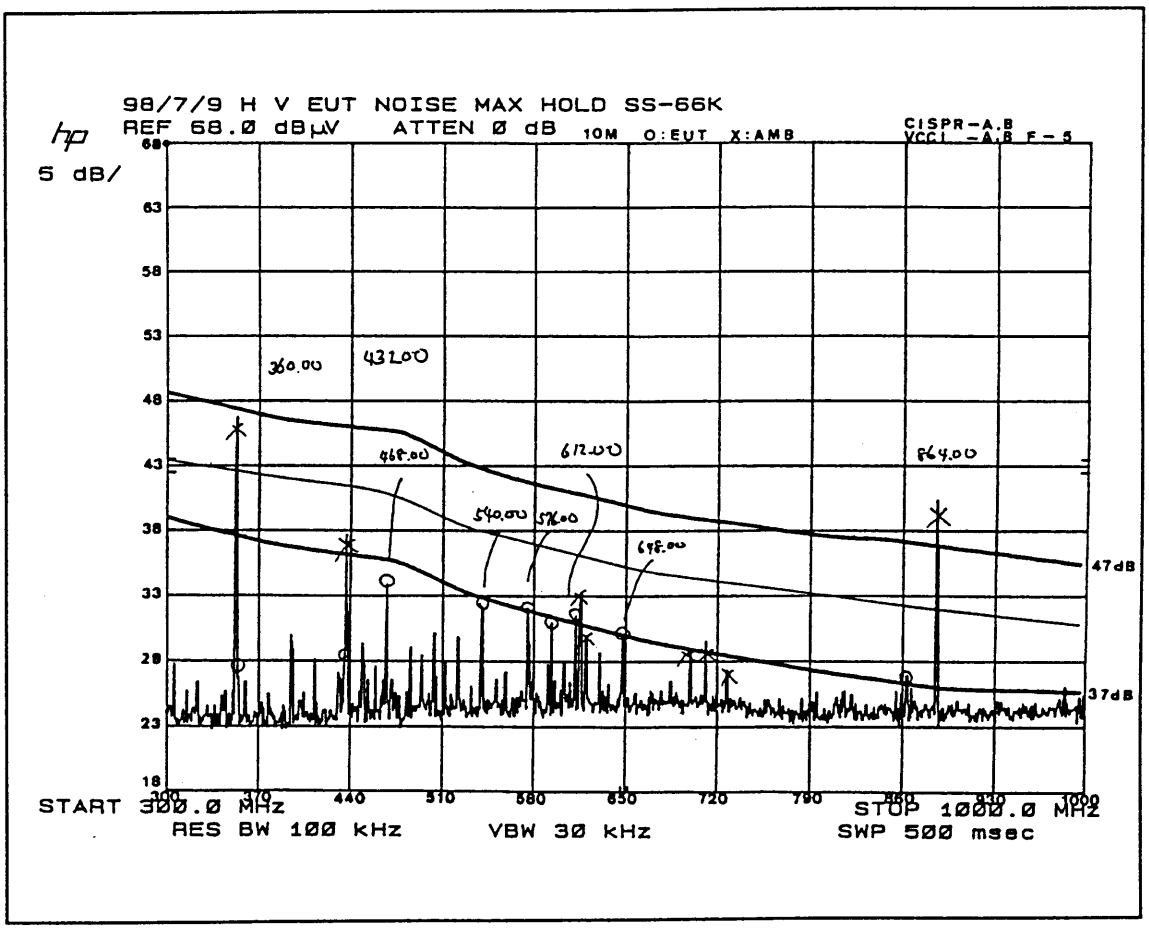
Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: vertical polarized antenna - sample at sub-band 18/ch. 1



Remark: An "X"-Marker indicates ambient signal

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	30 MHz - 1 GHz
	see TBR 41, table 2

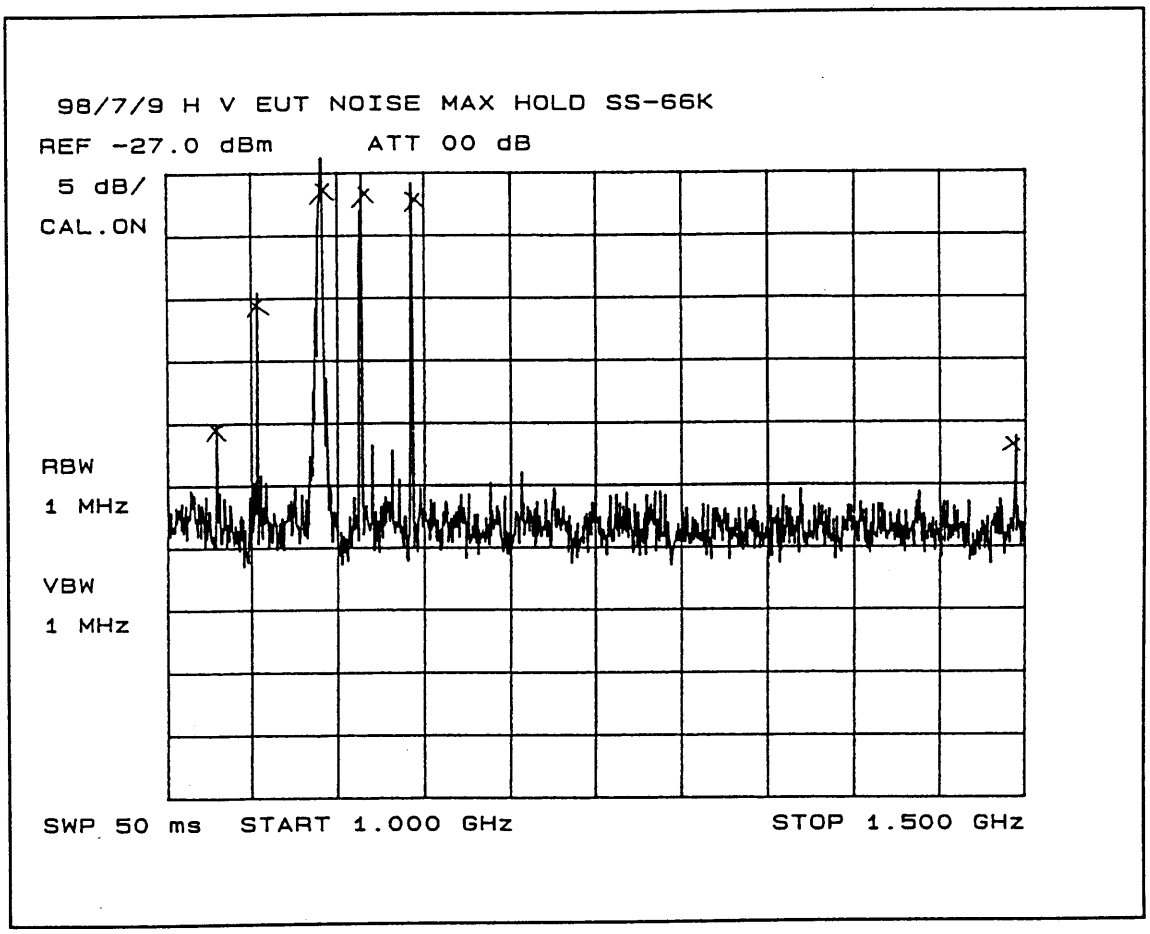
Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: vertical polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	1 GHz - 1.559 GHz
	see TBR 41, table 2

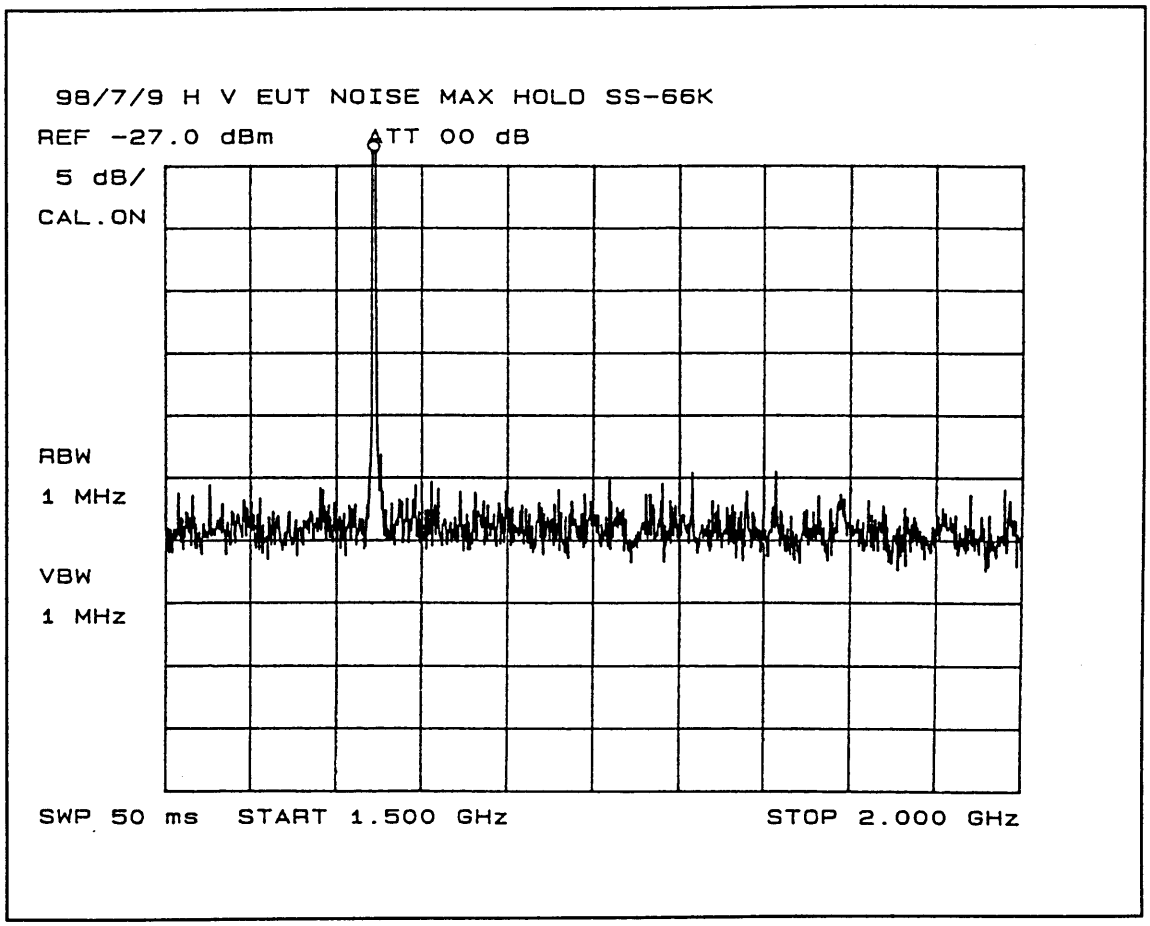
Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: vertical polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	1.559 GHz - 2.2 GHz
	see TBR 41, table 2

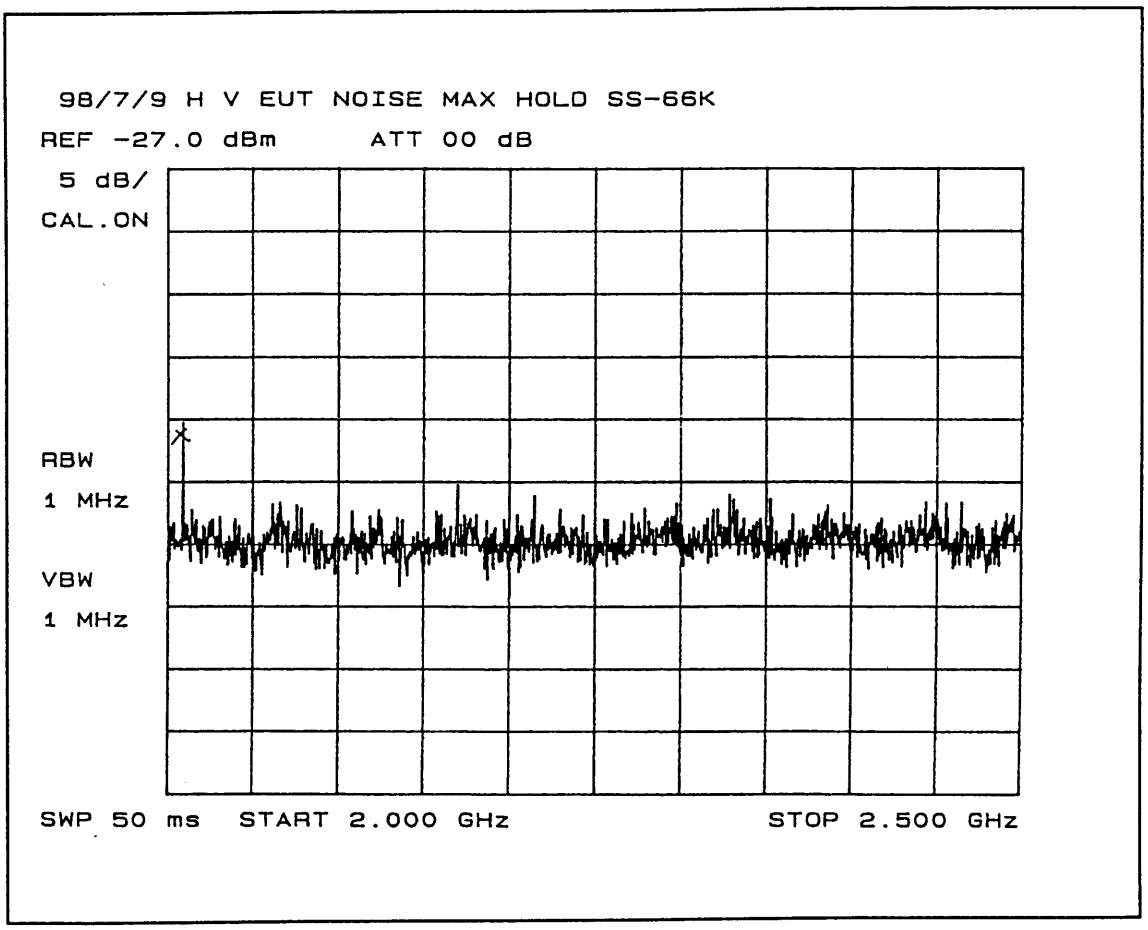
Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal
Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: vertical polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	1.6665 GHz - 2.2 GHz - 12.750 GHz
	see TBR 41, table 2

Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

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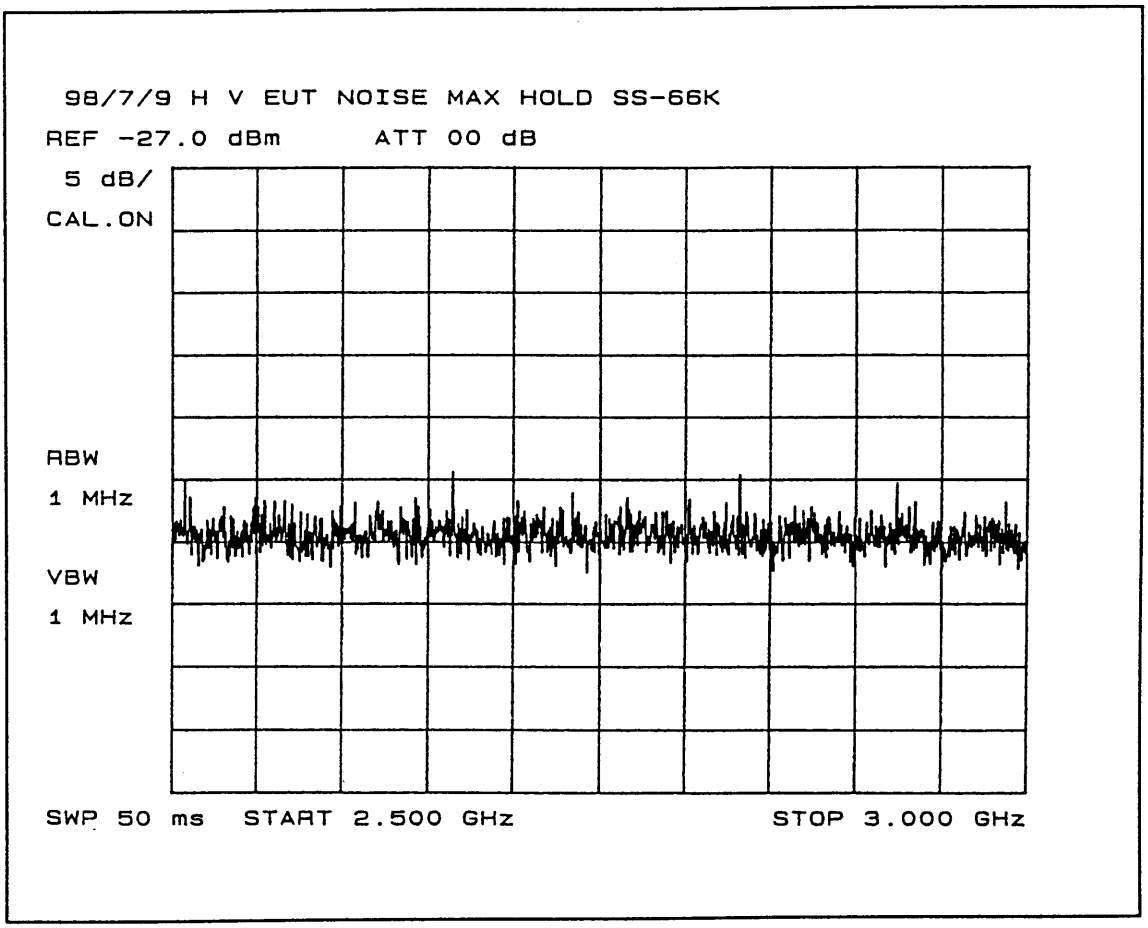
Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: vertical polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	2.2 GHz - 12.750 GHz
	see TBR 41, table 2

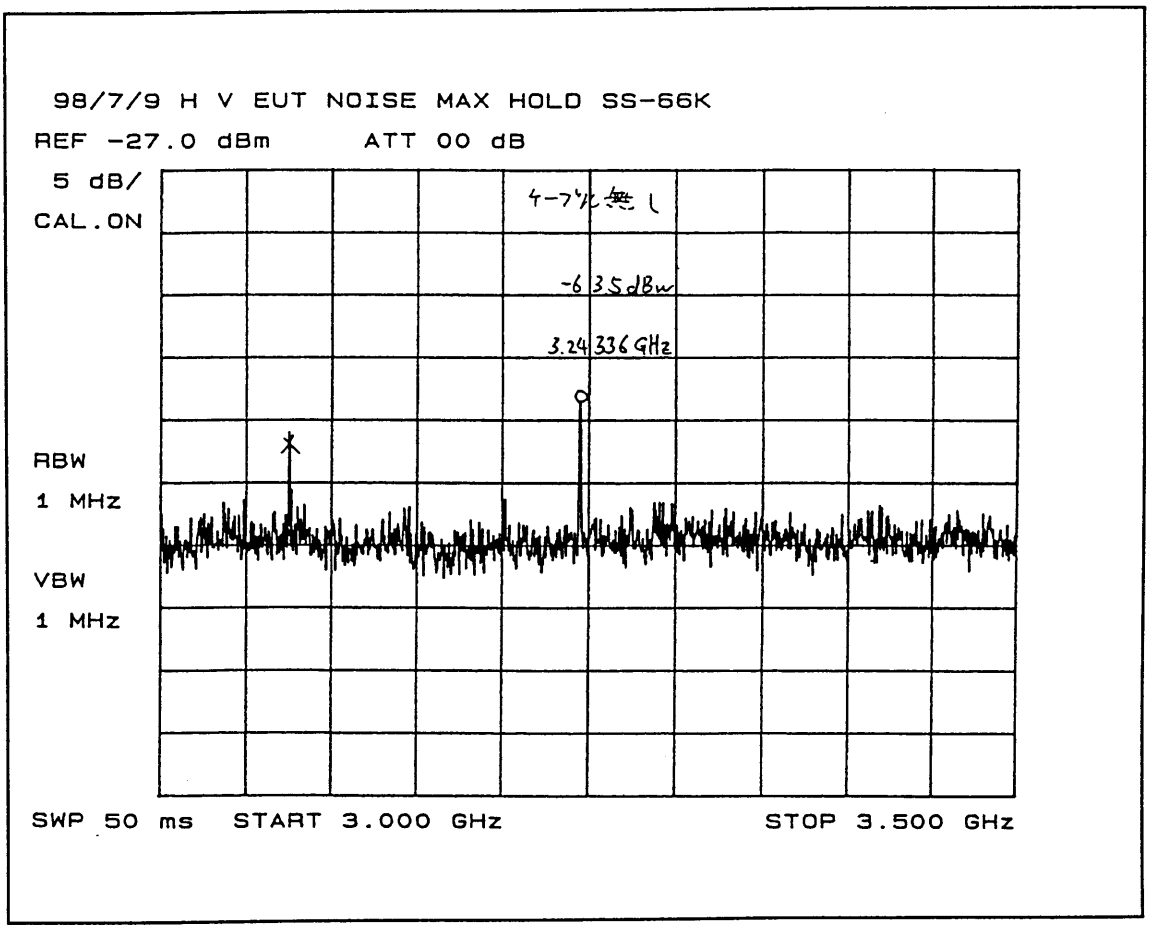
Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs)
incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: 22 °C Relative humidity: 74 %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: vertical polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	2.2 GHz - 12.750 GHz
	see TBR 41, table 2

Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

TEST FORM Report issued: 28 July 1998

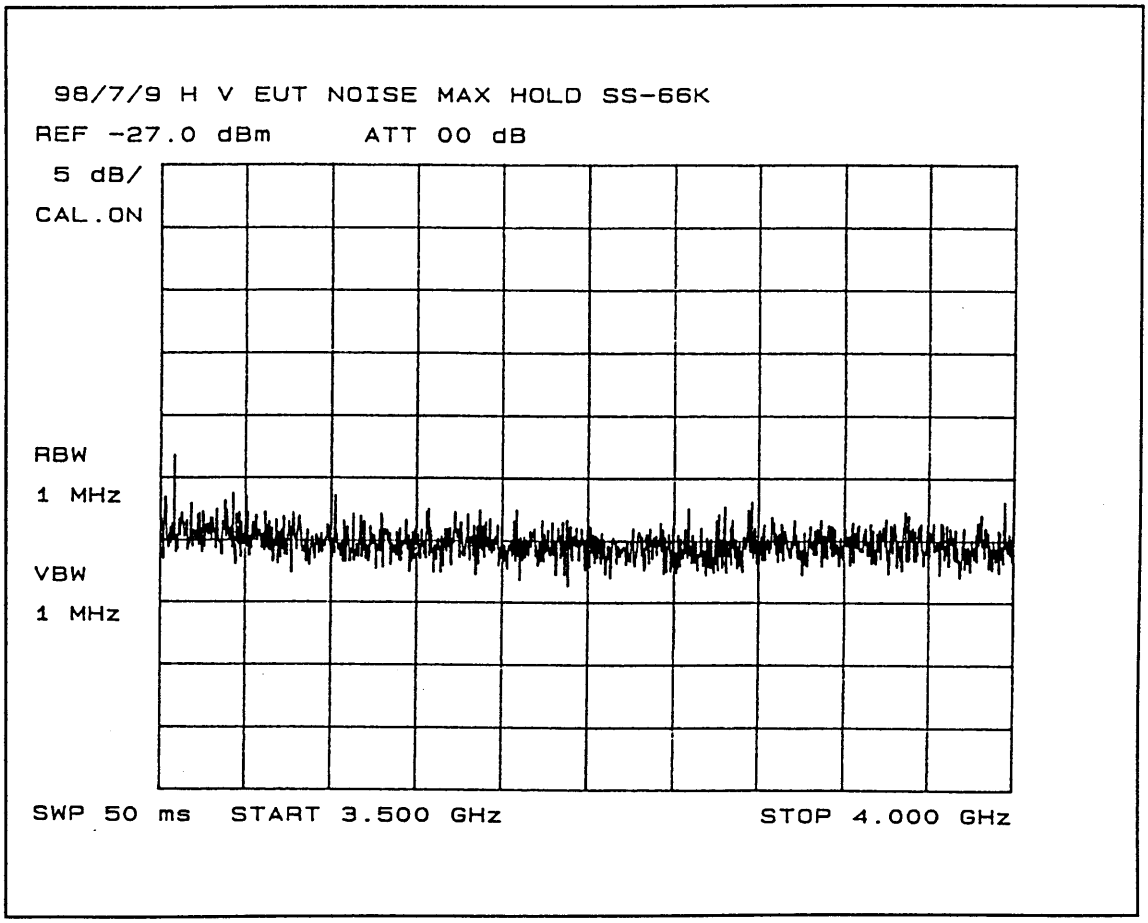
TYPE TEST ACCORDING TO TBR 41 **Issue February 1998**

Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

Ambient temperature: *22* °C Relative humidity: *74* %

CABINET RADIATION; COMPLIANCE TEST AT 3m OPEN AREA TEST SITE (Annex A, Table A.2)

Test mode: vertical polarized antenna - sample at sub-band 18/ch. 1



Remark: *An "X"-Marker indicates ambient signal*

Measuring uncertainty	*5.00 dB*

LIMIT (Pre-compliance)	2200 MHz - 12750 MHz
	see TBR 41, table 2

Measuring equipment used: *3, 4, 5, 6, 7, 9, 10, 11, 13 (see list page 85).*

Section 7. Frequency Stability

NAME OF TEST: Frequency Stability	PARA. NO.: 25.995

Test Results: Complies.

Measurement Data:

Standard Test Voltage: 7.4 Vdc
Battery End point 5.8 Vdc
Battery Full point 8.4 Vdc

		-30C	-20C	-10C	0C	10C	20C	30C	40C	50C
Supply Voltage	5.8V						+0.03 ppm			
	7.4V	+0.51 ppm	+0.15 ppm	-0.04 ppm	-0.24 ppm	-0.16 ppm	**REFERENCE**	+0.21 ppm	+0.34 ppm	+0.35 ppm
	8.4V						+0.02 ppm			

Section 8. Protection of Radionavigation/Satellite Service

NAME OF TEST: Protection of Radionavigation/Satellite Service	PARA. NO.: 25.213(b)

Test Results: Complies.

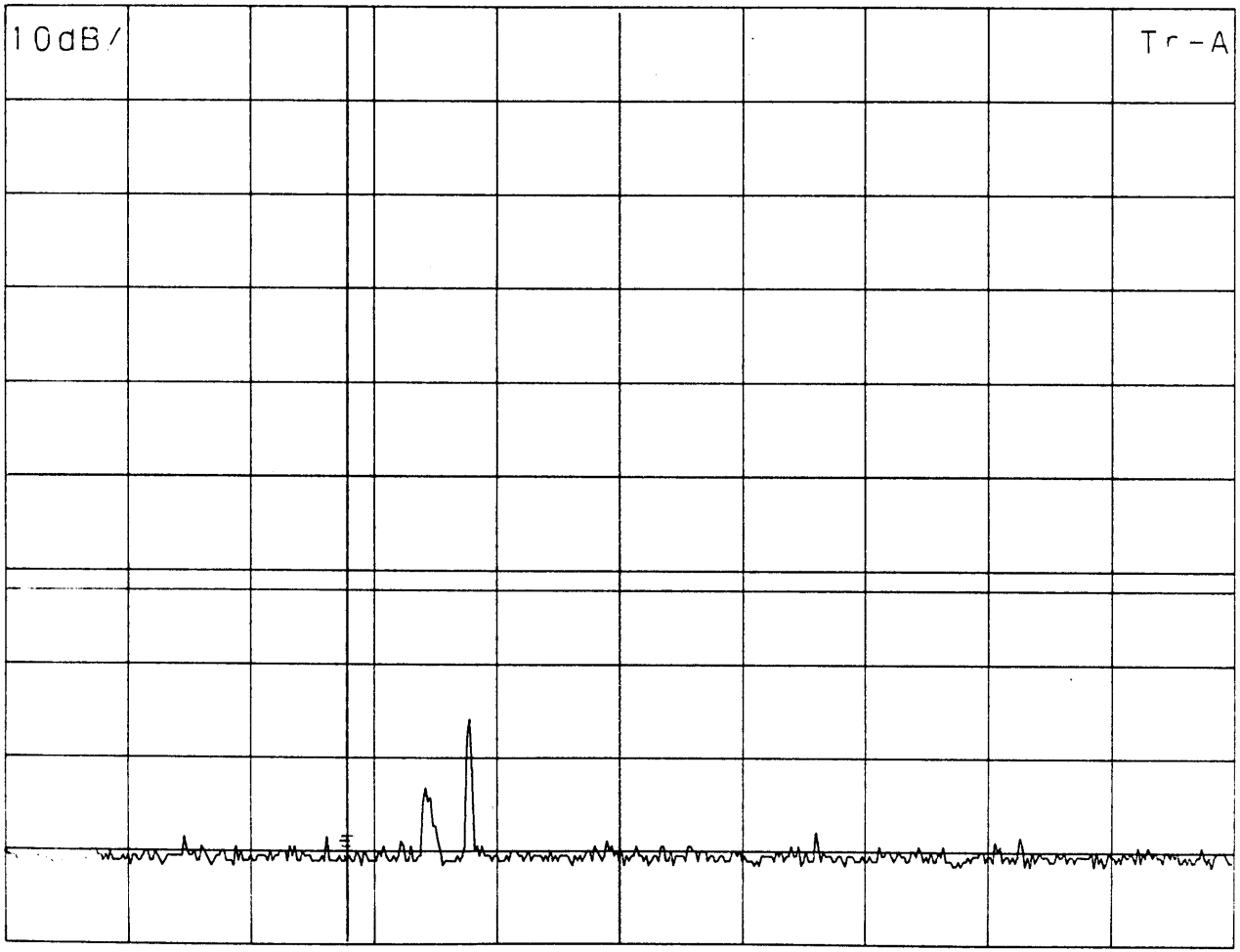
Measurement Data:

Specification Limit: -80 dB(W/600Hz) .
Worst-case Measured Level: -108.5 dB(W/300Hz) or -105.5 dB(W/600Hz) .

MKR 1 603556GHz

-78 46dBm RB 300Hz# AT 20dB# Band auto

RLV 12 20dBm# VB 300Hz# ST 500s#

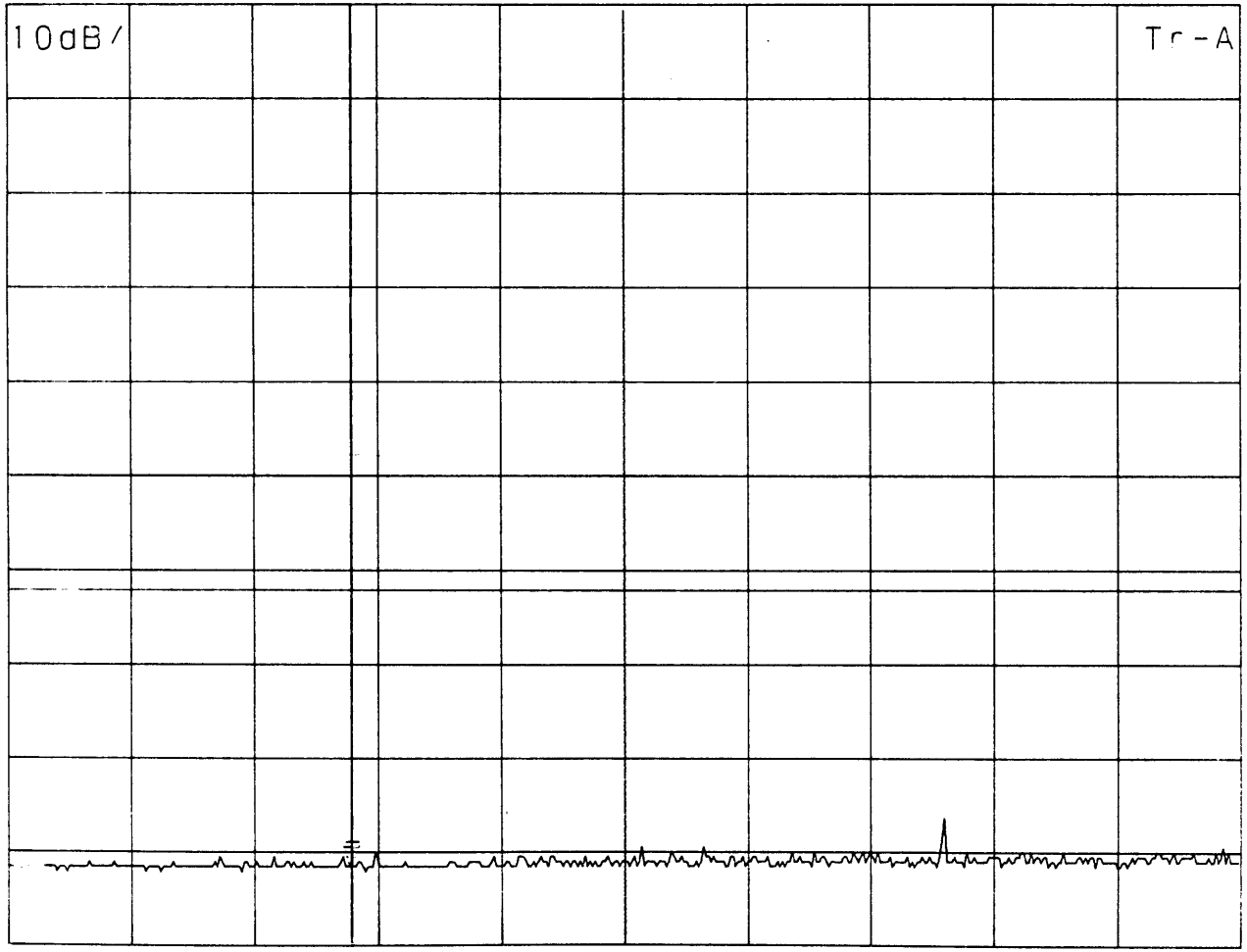


ST 1 603000GHz SP 1 605000GHz

MKR 1 59506GHz

-79 10dBm RB 300Hz# AT 20dB# Band auto

RLV 12.20dBm# VB 300Hz# ST 500s#

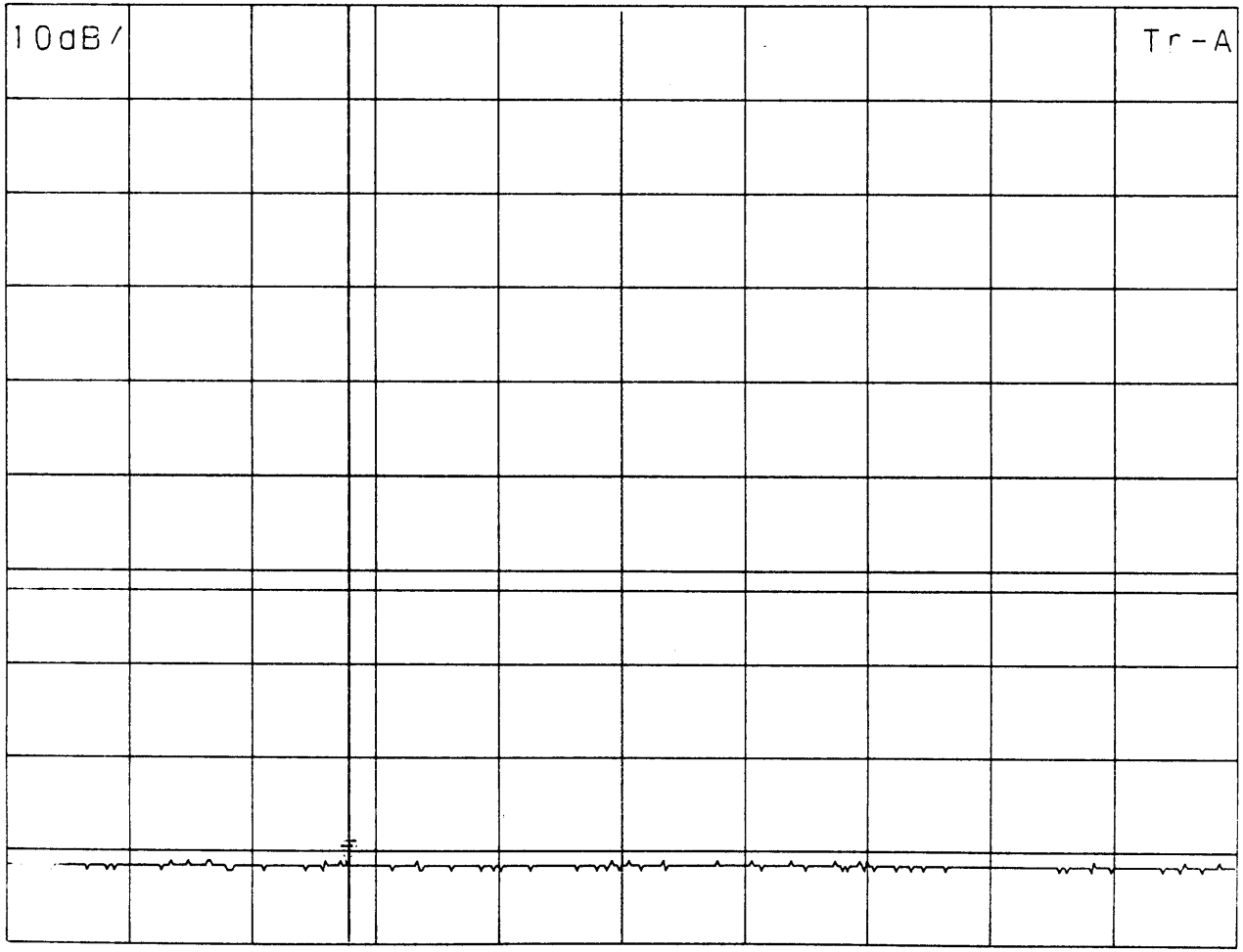


ST 1 59200GHz SP 1 60300GHz

MKR 1 58406GHz

-79 33dBm RB 300Hz# AT 20dB# Band auto

RLV 12 20dBm# VB 300Hz# ST 500s#

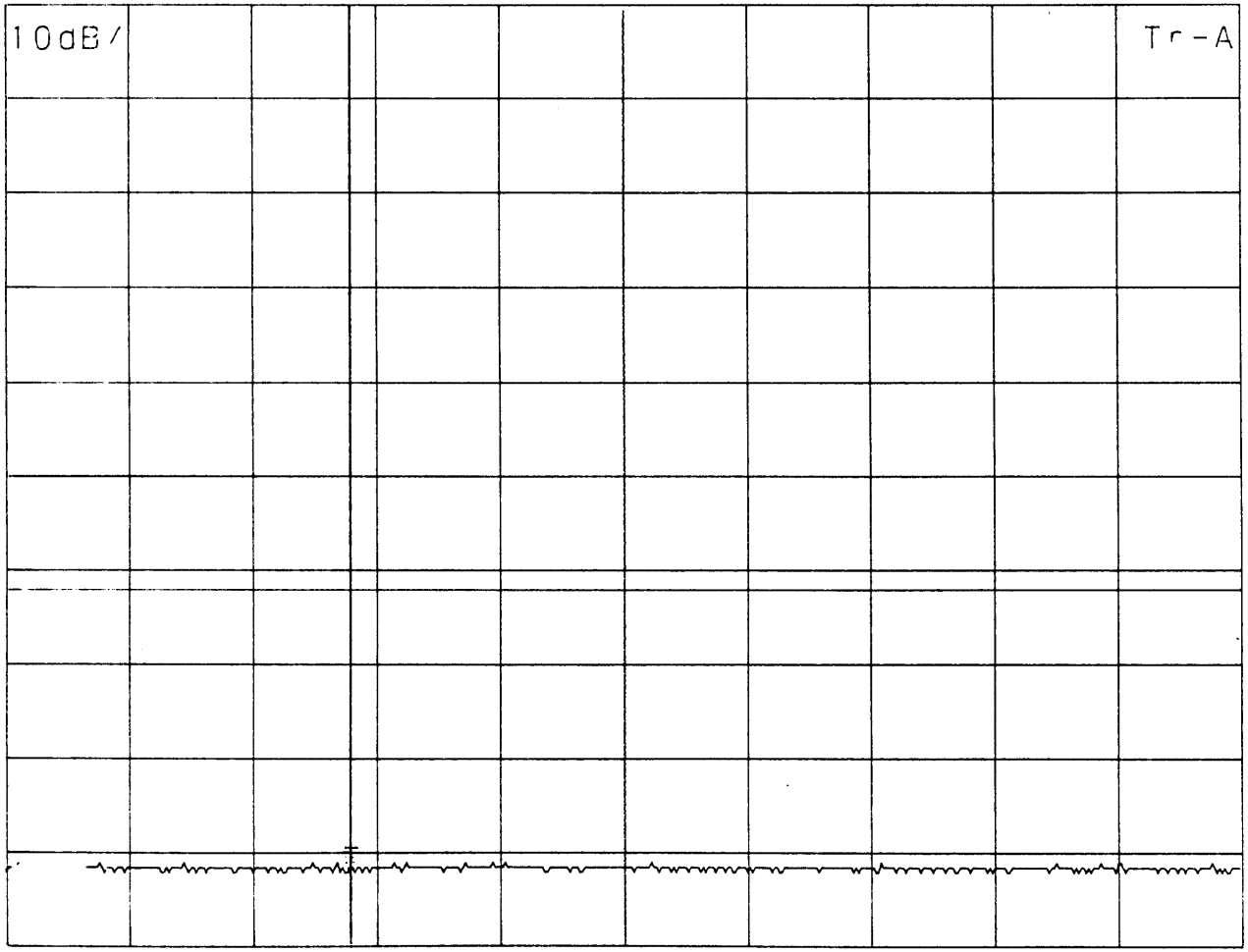


ST 1 58100GHz SP 1 59200GHz

MKR 1 57306GHz

-79 44dBm RB 300Hz# AT 20dB# Band auto

RLV 12 20dBm# VB 300Hz# ST 500s#

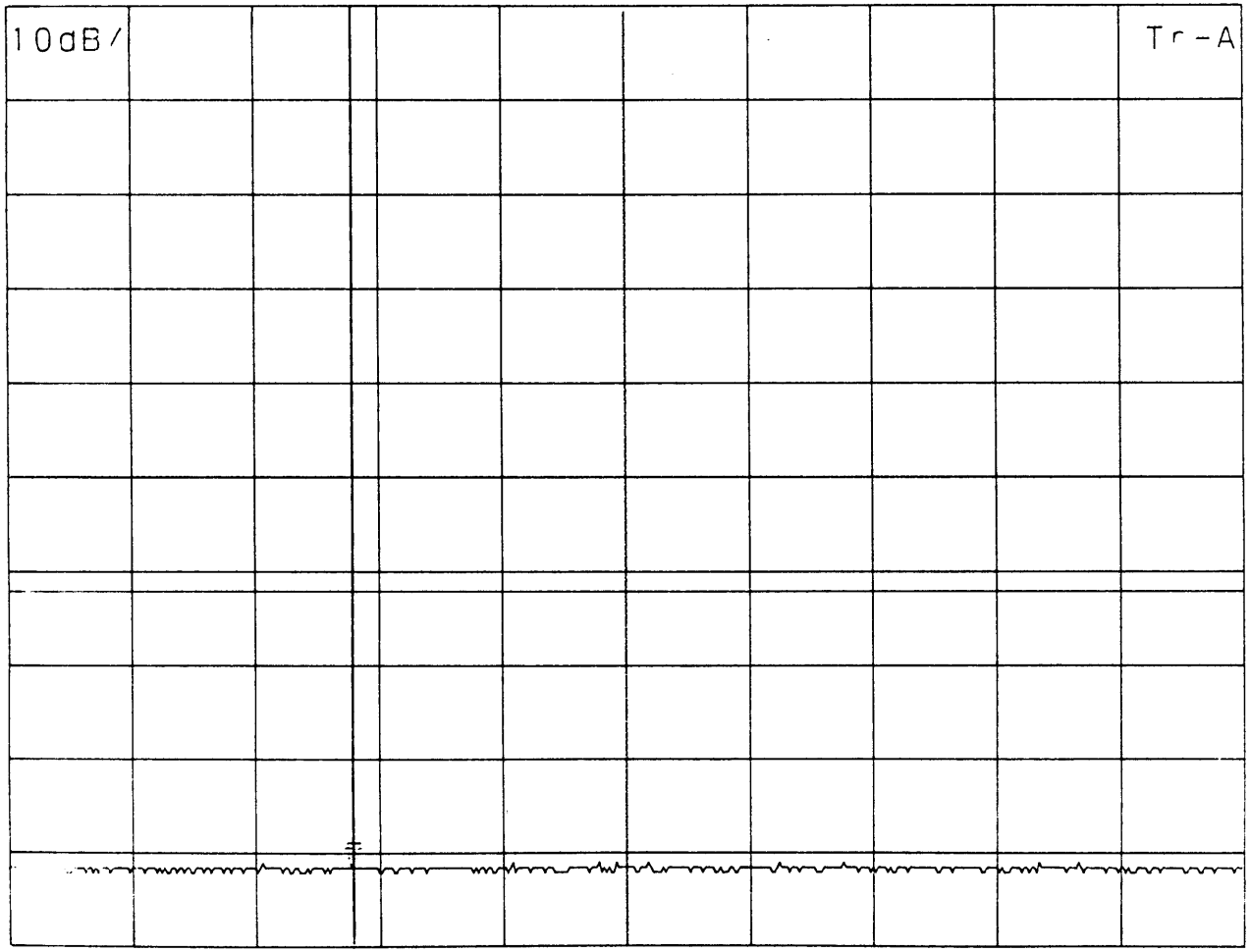


ST 1 57000GHz SP 1 58100GHz

MKR 1 56206GHz

-79 40dBm RB 300Hz# AT 20dB# Band auto

RLV 12 20dBm# VB 300Hz# ST 500s#

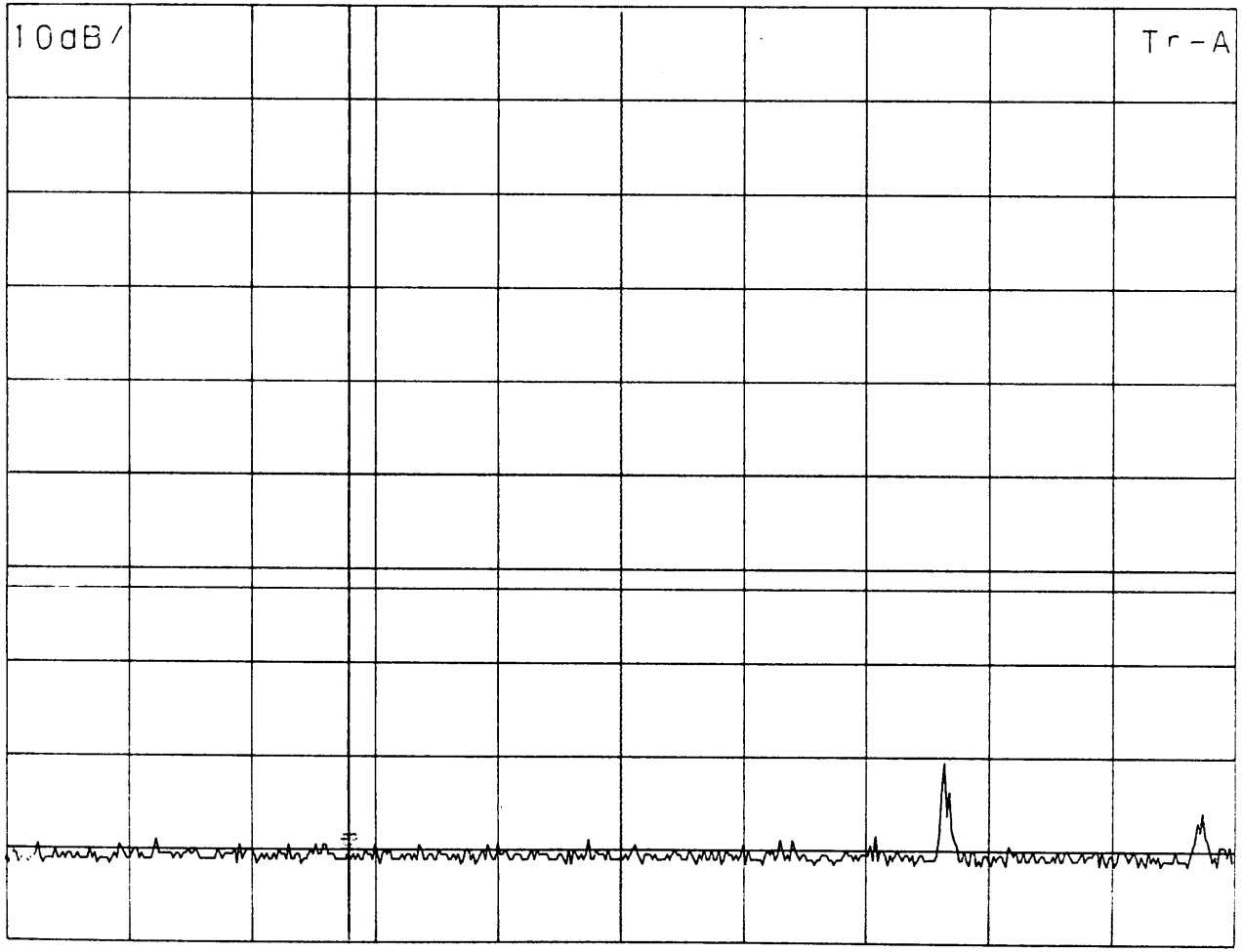


ST 1 55900GHz SP 1 57000GHz

MKR 1 603556GHz

-78 42dBm RB 300Hz# AT 20dB# Band auto

RLV 12 20dBm# VB 300Hz# ST 500s#

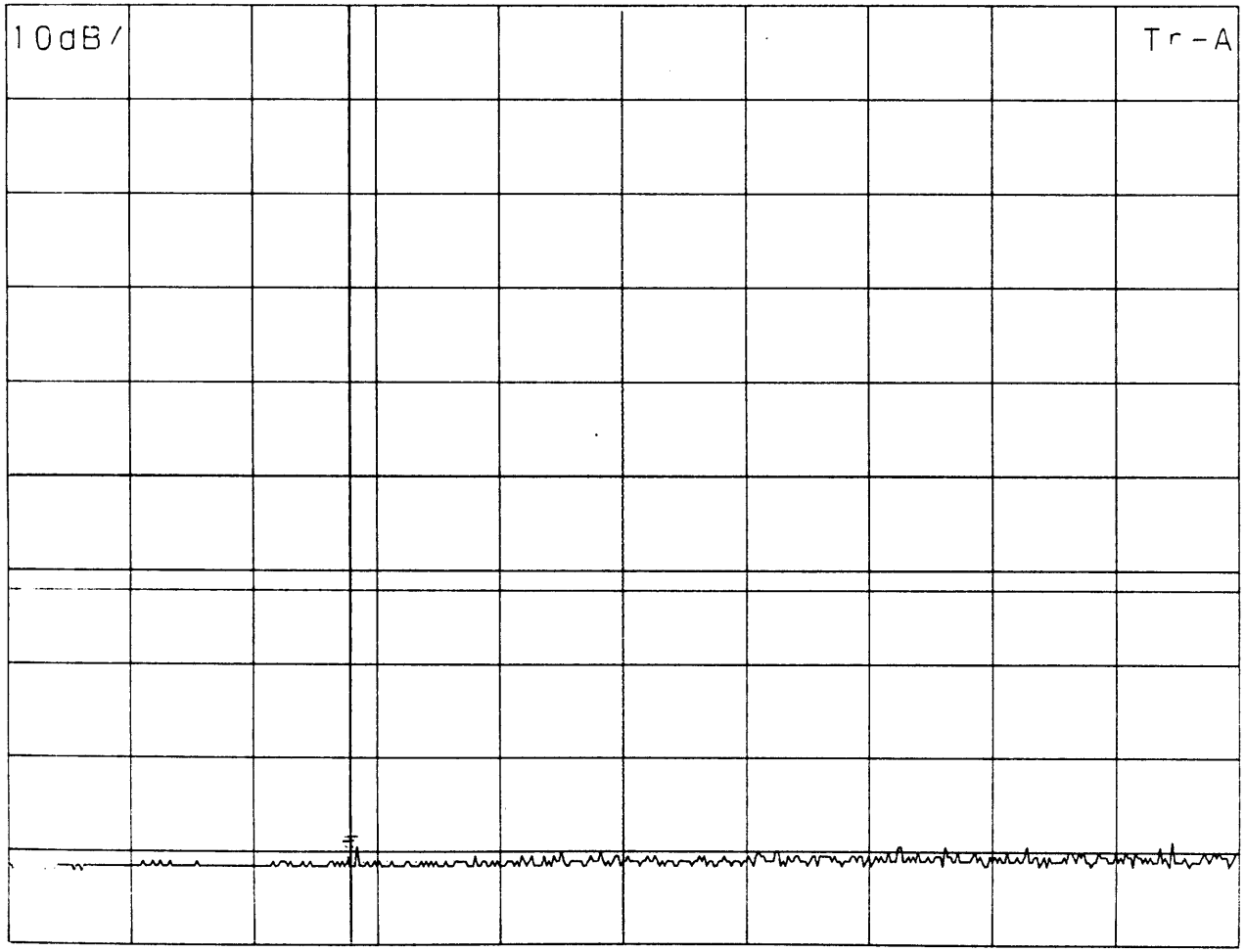


ST 1 603000GHz SP 1 605000GHz

MKR 1 59506GHz

-78 88dBm RB 300Hz# AT 20dB# Band auto

RLV 12 20dBm# VB 300Hz# ST 500s#

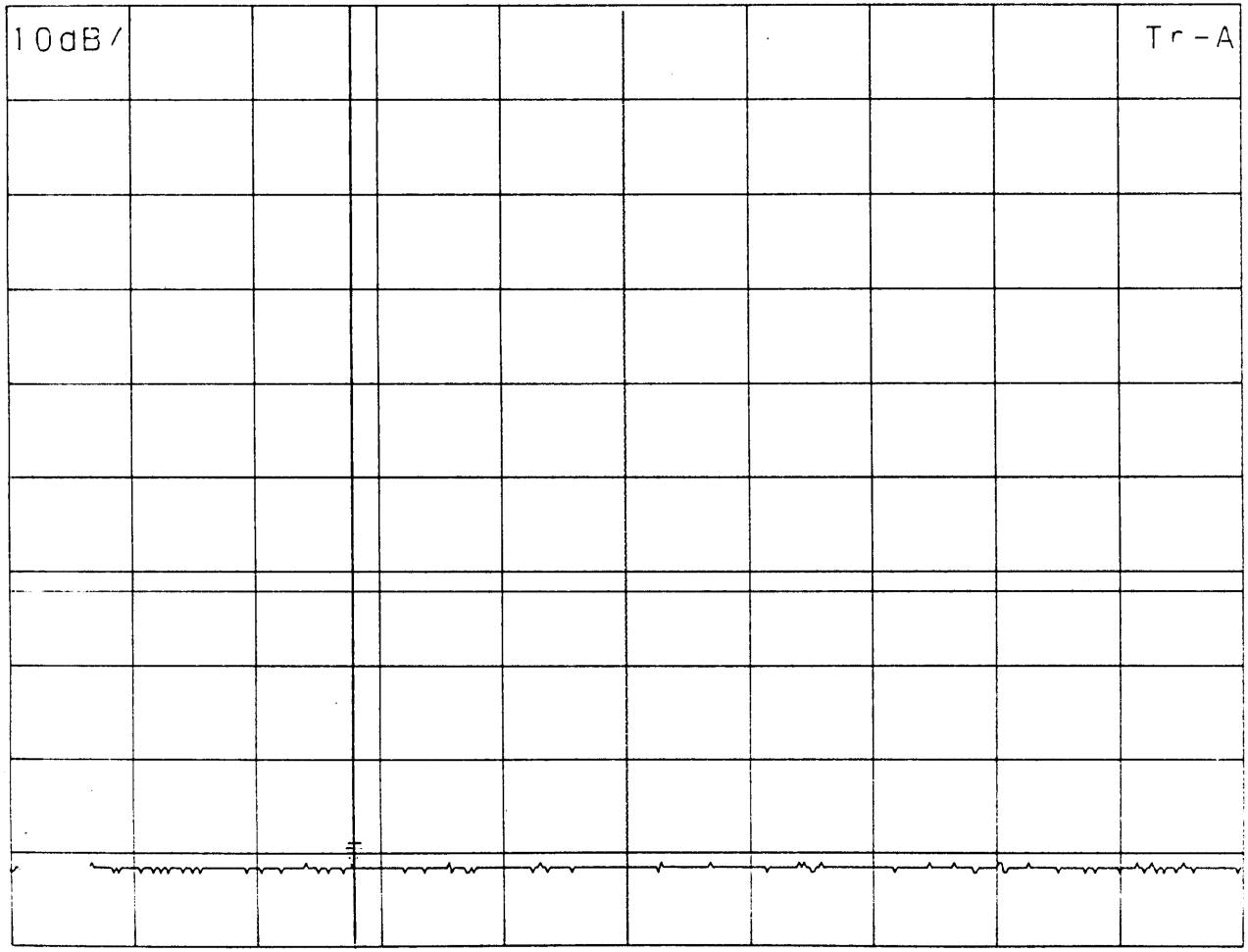


ST 1 59200GHz SP 1 60300GHz

MKR 1 58406GHz

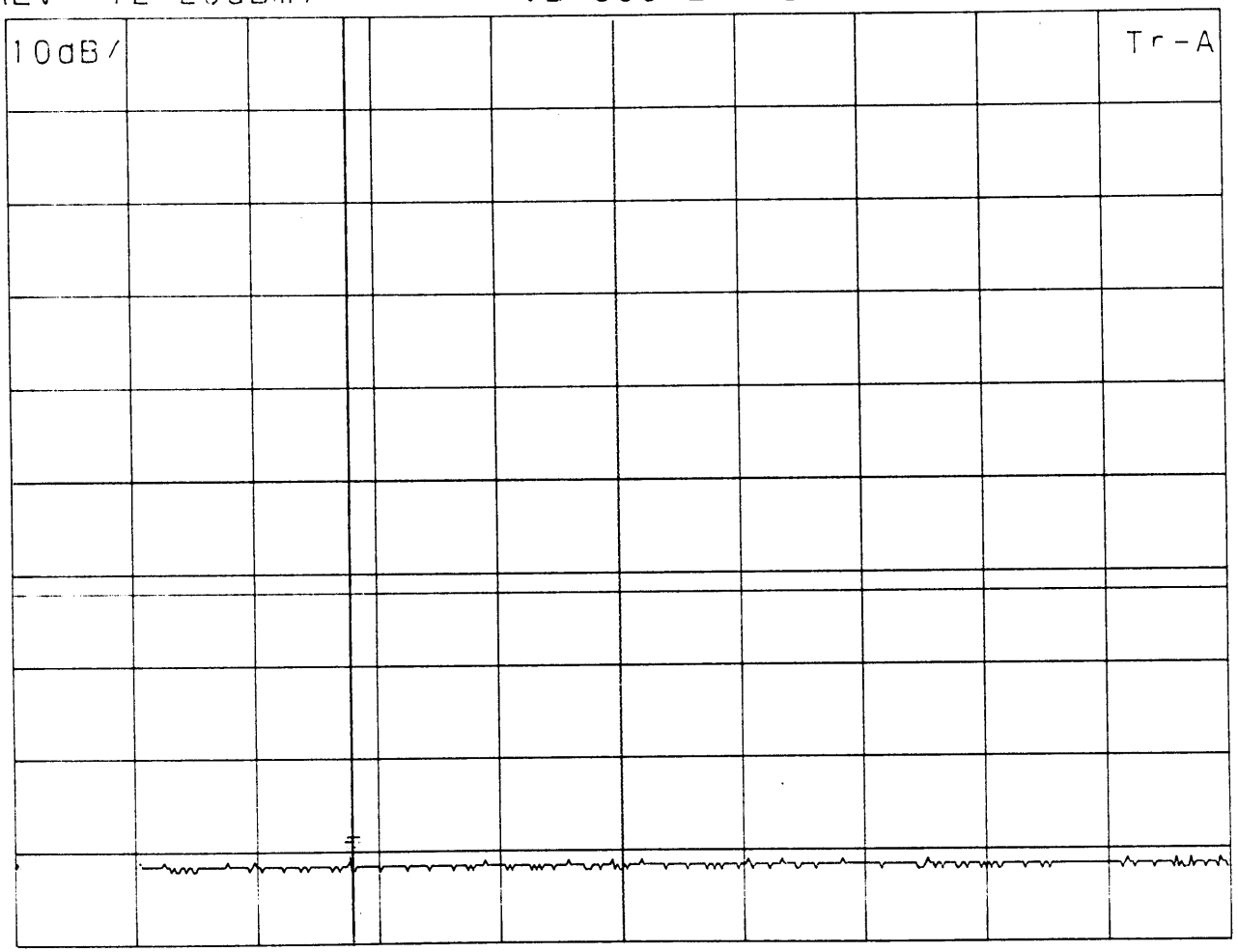
-79 28dBm RB 300Hz# AT 20dB# Band auto

RLV 12 20dBm# VB 300Hz# ST 500s#



ST 1 58100GHz SP 1 59200GHz

MKR 1 57306GHz
-78 42dBm
RB 300Hz# AT 20dB# Band auto
RLV 12 20dBm#
VB 300Hz# ST 500s#

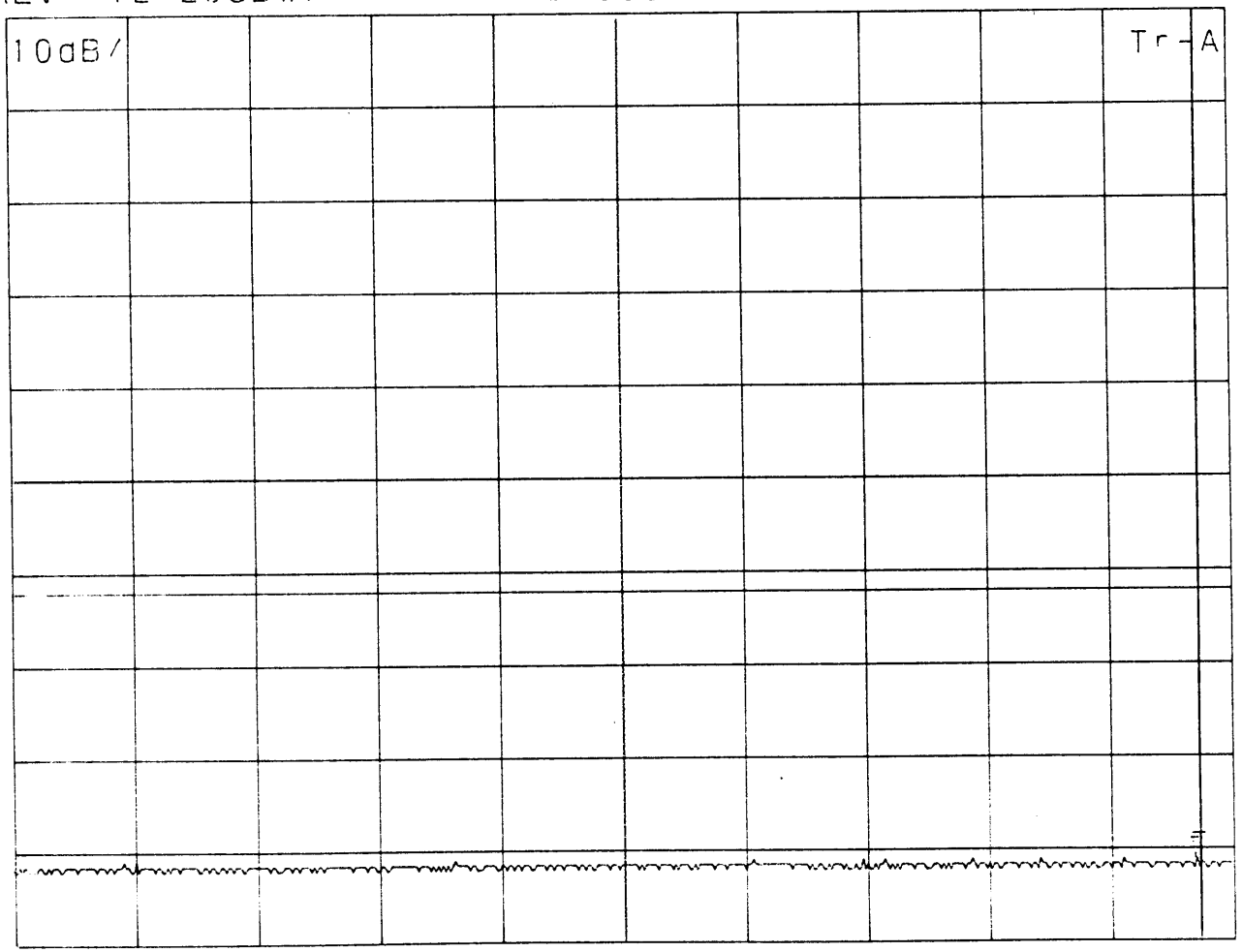


ST 1 57000GHz
SP 1 58100GHz

MKR 1 56969GHz

-78 45dBm RB 300Hz# AT 20dB# Band auto

RLV 12 20dBm# VB 300Hz# ST 500s#



ST 1 55900GHz SP 1 57000GHz

Section 9. Test Equipment List

Satellite Earth Stations and Systems (SES);
Terminal essential requirements for Mobile Earth Stations (MESs) incl. handheld earth stations for operation in a Satellite-Personal Comm. Network (S-PCN) under the Mobile Satellite Service (MSS)

UTILIZED MEASUREMENT EQUIPMENT

R.F. MEASUREMENT EQUIPMENT			
No.	Description	Mfg. & model	Identif.
1	Spectrum Analyzer	Anritsu MS2602A	S/N MT56039
2	Spectrum Analyzer	Anritsu MS2665C	S/N MT12679
3	Spectrum Analyzer	Advantest TR4173E	S/N 85594008
4	Spectrum Analyzer	Hewlett Packard 8567A	S/N 2848A17429
5	Receiver	Rohde & Schwarz ESVS10	S/N 8451651016
6	Preamplifier	Hewlett Packard 8447D	S/N 272A05969
7	Preamplifier	Hewlett Packard 8449B	S/N 3008A00109
8	20 dB attenuator	Weinschel model 33-20-34	S/N BE7776
9	Biconical antenna	Schwarzbeck	Reg. 2120
10	Logperiodic antenna	Schwarzbeck	S/N 91071129
11	DRG horn antenna	EMCO 3115	S/N 5377

AUXILIARIES			
No.	Description	Mfg. & model	Identif.
12	IRIDIUM Network Simulator (INS)	Hewlett Packard	--
13	Thermohygrometer	SATO model HIGHEST I	S/N 18979

ANNEX A

TEST METHODOLOGIES

EQUIPMENT: **KYOCERA IRIDIUM SATELLITE HANDSET**
MODELS: SS-66K AND SD-66K

NAME OF TEST: RF Power Output	**PARA. NO.: 2.985**

Minimum Standard: Para. No.25.204(a). +40 dB(W/4kHz) for q ≤ 0°

Method Of Measurement:

Antenna Conducted:
The peak power at antenna terminals is measured using a Spectrum Analyzer with RBW of 3 kHz. The measured value is corrected for 4kHz RBW. Power output is measured with the maximum rated input level.

E.I.R.P.:
If the antenna is not detachable from the circuit then the Peak Power Output is derived from the peak radiated field strength of the fundamental emission by using the plane wave relation $GP/4\pi R^2 = E^2/120\pi$ and proceeding as follows:

$$P = \frac{E^2 R^2}{30G} = \frac{E^2 3^2}{30G}$$

where,

P = the equivalent isotropic radiated power in watts
E = the maximum measured field strength in V/m
R = the measurement range (3 meters)
G = the numeric gain of the transmit antenna in relation to an isotropic radiator

EQUIPMENT: **KYOCERA IRIDIUM SATELLITE HANDSET**
MODELS: SS-66K AND SD-66K

NAME OF TEST: Occupied Bandwidth	**PARA. NO.: 2.989**

Minimum Standard: Para. No. 25.202(f). The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(1) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 50 % up to and including 100 % of the authorized bandwidth: 25 decibels.
(2) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 100 % up to and including 250 % of the authorized bandwidth: 35 decibels.
(3) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250 % of the authorized bandwidth: an amount equal to 43 decibels plus 10 times the logarithm (to the base 10) of the transmitter power in watts.

Antenna Conducted:
The peak power at antenna terminals is measured using a Spectrum Analyzer with RBW of 3 kHz. The measured value is corrected for 4kHz RBW. Power output is measured with the maximum rated input level.

E.I.R.P.:
If the antenna is not detachable from the circuit then the Peak Power Output is derived from the peak radiated field strength of the fundamental emission by using the plane wave relation $GP/4\pi R^2 = E^2/120\pi$ and proceeding as follows:

$$P = \frac{E^2R^2}{30G} = \frac{E^2 3^2}{30G}$$

where,

P = the equivalent isotropic radiated power in watts
E = the maximum measured field strength in V/m
R = the measurement range (3 meters)

G = the numeric gain of the transmit antenna in relation to an isotropic radiator

NAME OF TEST: Spurious Emission at Antenna Terminals PARA. NO.: 2.991

Minimum Standard: Para. No. 25.202(f). The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(1) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 50 % up to and including 100 % of the authorized bandwidth: 25 decibels.
(2) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 100 % up to and including 250 % of the authorized bandwidth: 35 decibels.
(3) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250 % of the authorized bandwidth: an amount equal to 43 decibels plus 10 times the logarithm (to the base 10) of the transmitter power in watts.

Antenna Conducted:
The peak power at antenna terminals is measured using a Spectrum Analyzer with RBW of 3 kHz. The measured value is corrected for 4kHz RBW. Power output is measured with the maximum rated input level.

E.I.R.P.:
If the antenna is not detachable from the circuit then the Peak Power Output is derived from the peak radiated field strength of the fundamental emission by using the plane wave relation $GP/4\pi R^2 = E^2/120\pi$ and proceeding as follows:

$$P = \frac{E^2 R^2}{30G} = \frac{E^2 3^2}{30G}$$

where,

P = the equivalent isotropic radiated power in watts
E = the maximum measured field strength in V/m
R = the measurement range (3 meters)
G = the numeric gain of the transmit antenna in relation to an isotropic radiator

NAME OF TEST: Field Strength of Spurious Radiation **PARA. NO.: 2.993**

Minimum Standard: Para. No. 25.202(f). The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

(1) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 50 % up to and including 100 % of the authorized bandwidth: 25 decibels.
(2) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 100 % up to and including 250 % of the authorized bandwidth: 35 decibels.
(3) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250 % of the authorized bandwidth: an amount equal to 43 decibels plus 10 times the logarithm (to the base 10) of the transmitter power in watts.

Antenna Conducted:
The peak power at antenna terminals is measured using a Spectrum Analyzer with RBW of 3 kHz. The measured value is corrected for 4kHz RBW. Power output is measured with the maximum rated input level.

E.I.R.P.:
If the antenna is not detachable from the circuit then the Peak Power Output is derived from the peak radiated field strength of the fundamental emission by using the plane wave relation $GP/4\pi R^2 = E^2/120\pi$ and proceeding as follows:

$$P = \frac{E^2R^2}{30G} = \frac{E^2 3^2}{30G}$$

where,

P = the equivalent isotropic radiated power in watts
E = the maximum measured field strength in V/m
R = the measurement range (3 meters)
G = the numeric gain of the transmit antenna in relation to an isotropic radiator

NAME OF TEST: Frequency Stability	**PARA. NO.: 2.995**

Test Conditions: As per measurement data.

Minimum Standard: Para. No. 25.202(d). The carrier frequency of each earth station transmitter authorized in these services shall be maintained within 0.001 % of the reference.

Method Of Measurement:

Frequency Stability With Voltage Variation

The E.U.T. is placed in an environmental chamber and allowed to stabilize at +20 degrees Celsius for at least 15 minutes. With the voltage input to the E.U.T. set to 100% S.T.V., the frequency is measured in 30 second intervals for a period of 5 minutes. This becomes the reference frequency. This procedure is repeated at the battery end point and full point.

Frequency Stability With Temperature Variation

The input voltage to the E.U.T. is set to 100% S.T.V. and the temperature of the environmental chamber is varied in 10 degree steps from -30 degrees C to +50 degrees C. The E.U.T. is allowed to stabilize at each temperature and the frequency is measured in 30 second intervals for a period of 5 minutes.

EQUIPMENT: **KYOCERA IRIDIUM SATELLITE HANDSET**
MODELS: SS-66K AND SD-66K

NAME OF TEST: Protection of Radionavigation/Satellite Service PARA. NO.: 25.213(b)

Minimum Standard: Para. No. 25.213(b). Mobile earth stations operating in the 1610 - 1626.5 MHz band shall limit out-of-band emissions in the 1574.397 - 1576.443 MHz band so as not to exceed an e.i.r.p. density level of -70 dB(W/MHz) averaged over any 20 ms period. The e.i.r.p. of any discrete spurious emission (i.e. bandwidth less than 600 Hz) in the 1574.397 - 1576.443 MHz band shall not exceed -80 dBW.

Antenna Conducted:
The peak power at antenna terminals is measured using a Spectrum Analyzer with RBW of 3 kHz. The measured value is corrected for 4kHz RBW. Power output is measured with the maximum rated input level.

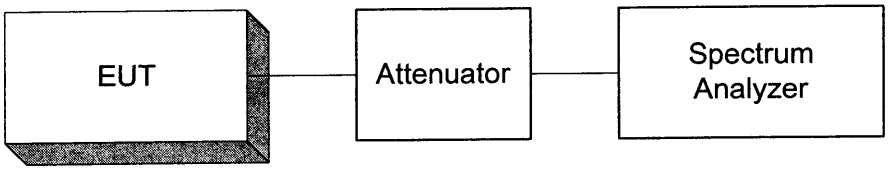
ANNEX B

TEST DIAGRAMS

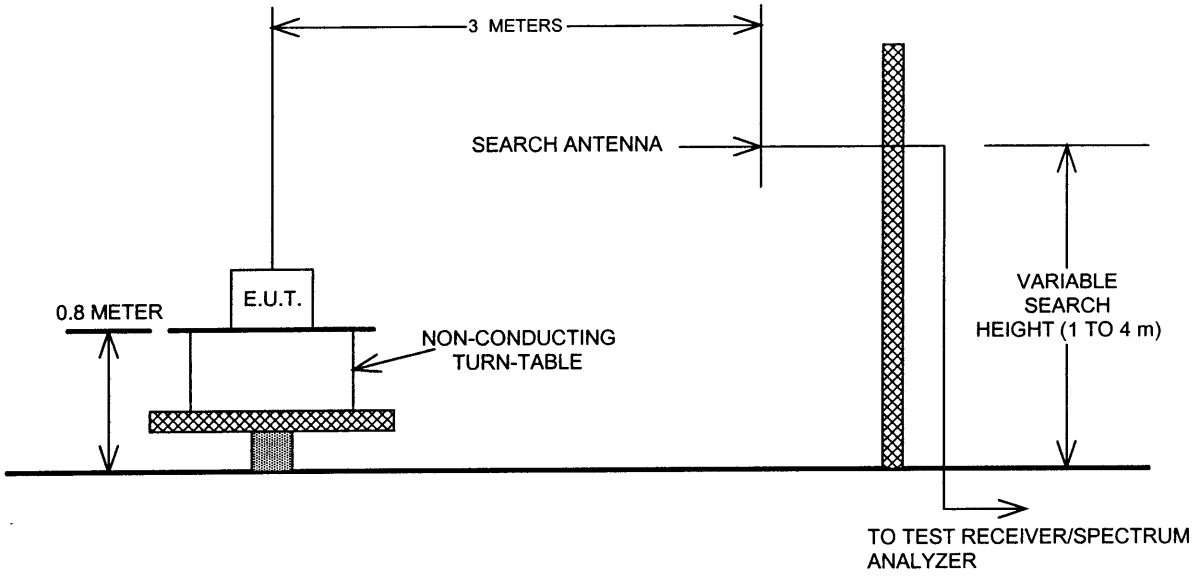
Para. No. 2.985 - R.F. Power Output

Para. No. 2.989 - Occupied Bandwidth

Para. No. 2.991 Spurious Emissions at Antenna Terminals



Para. No. 2.993 - Field Strength of Spurious Radiation



Para. No. 2.995 - Frequency Stability