TTI-P-G166/98

Accredited Bluetooth™ Test Facility (BQTF)

Test report no.: 5_3928-01-05/02
FCC Part 2, 15, 90
FCCID:M9665CG2

CETECOM – ICT Services GmbH
Untertürkheimerstr. 6-10
66117 Saarbrücken, Germany

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Fax: + 49 (0) 681 / 9075

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1 General information

1.1 Notes

The test results of this test report relate exclusively to the test item specified in 1.5. The CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the CETECOM ICT Services GmbH.

1.2 Testing laboratory

CETECOM ICT Services GmbH
Untertürkheimer Straße 6 - 10
66117 Saarbrücken
Germany
Telefone : + 49 681 598 - 9100
Telefax : + 49 681 598 - 9075
E-mail : Michael.Berg@ict.cetecom.de
Internet : www.cetecom.de

Accredited testing laboratory:
The Test laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025.
DAR registration number: TTI-P-G-166/98
Accredited Bluetooth™ Test Facility (BQTF)

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1.3 Details of applicant

Name : EADS Defence and Security Networks
Street : Rue J.P Timbaud-MS01, BP 26
City : F 78392 Bois d'Arcy Cedex
Country : France
Telephone : +33 1 34 60 88 94
Telefax : +33 1 34 60 78 98
Contact : Yann Lebail
Telephone : +33 1 34 60 88 94

1.4 Application details

Date of receipt of application : 2002-04-10
Date of receipt of test item : 2002-05-15
Date of test : 2002-05-15

1.5 Test item

Type of equipment	:	**Independant Digital Repeater IDR G2 M9665 C G2**
Type designation	:	RB1756BD/HR6005BDA02 with HR6106F (HU01) or HR6106R (MU07) Duplexer
Manufacturer	:	applicant
Street	:	
City	:	
Country	:	
Serial number	:	HR6005 BDA02 021100160 with Duplexer HU01 HR6106FAA02 021000738 or Duplexer MU07 HR6106RAA02 029

Additional informations: :

Frequency	:	440 - 490 MHz
Type of modulation	:	12K0F1D
Number of channels	:	4000
Antenna	:	PK1429A
Power supply	:	13.2 V DC vehicle battery or AC 115V power supply
Output power	:	15.0 W
Type of equipment	:	HR6005BDA02 with soft version RRIU310208
Temperature range	:	-30°C - +60°C

Serial Number of each subpart :

Mechanical Part	**HR6005BDA02 021100160**
Power supply	**HR5884CAA02 021000285**
Power amplifier	**HR6084BAA04 02090048**
Transceiver	**HR5873BAD05 020600344**
UGR Board	**HR6014AAB02 020800027**
Circulator	**HR6105BAA02 02021000737**
Low Noise Amplifier	**HR6006BBA01 014800004**
Duplexer HU01	**HR6106FAA02 021000738**
Duplexer MU07	**HR6106RAA02 029**

1.6 Test standards: FCC Part 2, 15, 90

2 Technical test

Rx:

The radiated measurements were performed vertical and horizontal over the whole frequency range. We start at 1 m high with vertical receiving antenna and rotate the dish continuously. During rotation we use the antenna lift system to vary the hight from 1 to 4 m. So thus we find maximum radiation output. At this points we do manual remeasurements. After this we do the same measurements in horizontal position of the receiving antenna. This (horizontal and vertical) is made for all the three planes of the test sample. We use the maximum received results.

The detector function and selection of bandwidth are according ANSI C63.2-1996 item 8.2.1 and ANSI C63.4-1992 Item 4.2.

Antennas are conform with ANSI C63.2-1996 item 15.

150 kHz - 30 MHz: Quasi Peak measurement, 9kHz Bandwidth, passive loop antenna.

30 MHz - 200 MHz: Quasi Peak measurement, 120KHz Bandwidth, biconical antenna

200MHz - 1GHz: Quasi Peak measurement, 120KHz Bandwidth, log periodic antenna

1GHz: Average, RBW 1MHz, VBW 10 MHz, wave guide horn

Tx: All measurements was done based on ANSI C63.4.

2.1 Summary of test results

No deviations from the technical specification(s) were ascertained in the course of the tests performed.

Final verdict : PASS

Technical responsibility for area of testing :

29.05.02	**RSC 8411**	**Berg M.**	
Date	**Section**	**Name**	**Signature**

Technical responsibility for area of testing :

29.05.02	**RSC8414**	**Ames H.**	
Date	**Section**	**Name**	**Signature**

2.2 Testreport

TEST REPORT

Test report no. : 5_3928-01-05/02

TEST REPORT REFERENCE

LIST OF MEASUREMENTS

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RF Power Vs. AC Power Input **SUBCLAUSE § 2.993**

Power (W)					
Frequency	**455.8625 MHz**	**485 MHz**			
Low power	**37.375**	**33.35**			
High power	**83.375**	**79.35**			
Measurement uncertainty	**± 3 %**				

RF Power Vs. DC Power Input

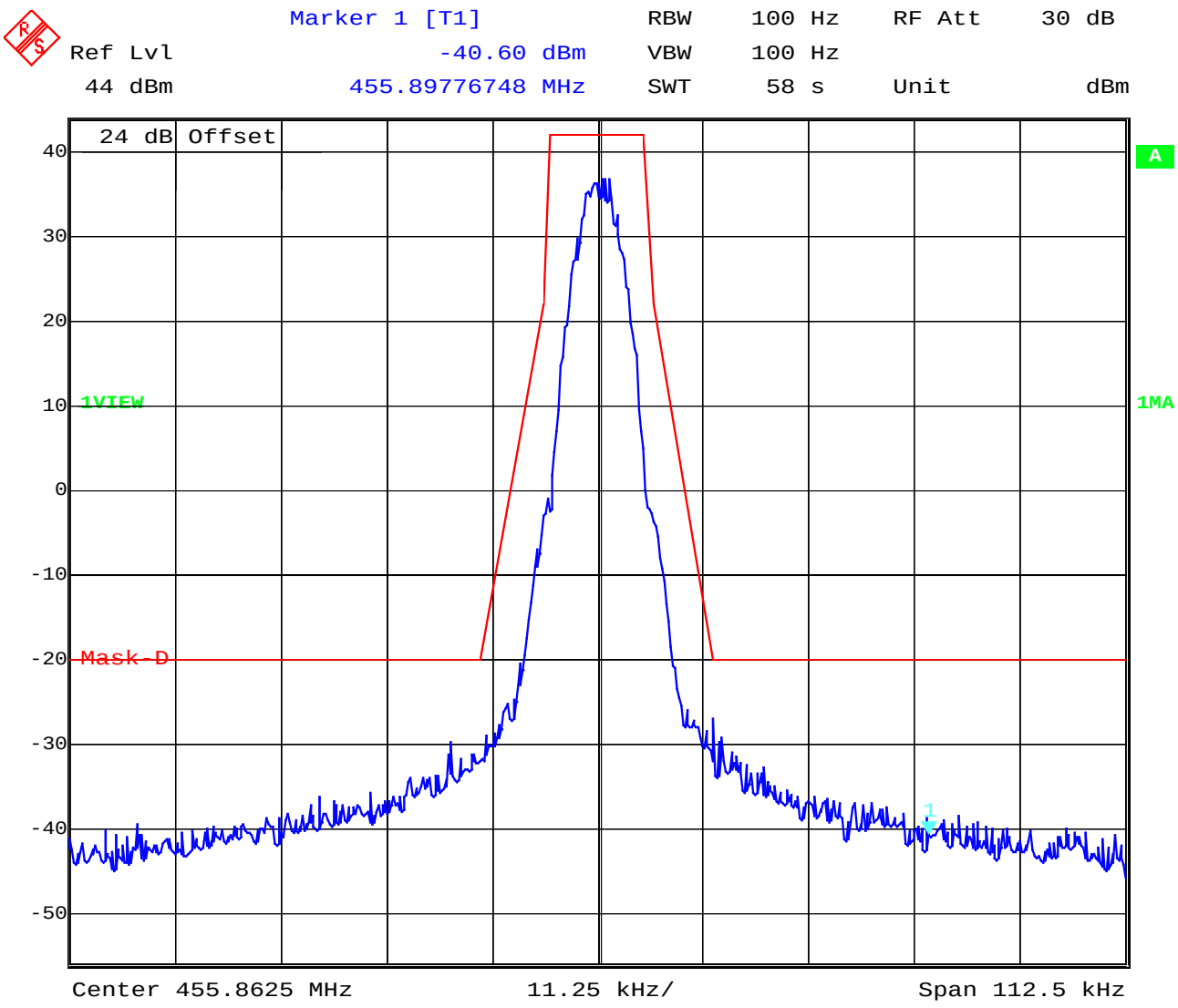
Power (W)					
Frequency	**455.8625 MHz**	**485 MHz**			
Low power	**30.888**	**29.832**			
High power	**68.112**	**69.696**			
Measurement uncertainty	**± 3 %**				

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
05

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

OCCUPIED BANDWIDTH §2.989

455.8625 MHz (max. power/ AC)



measured with normal Test modulation : Pseudo random data stream max. 8kBit/s

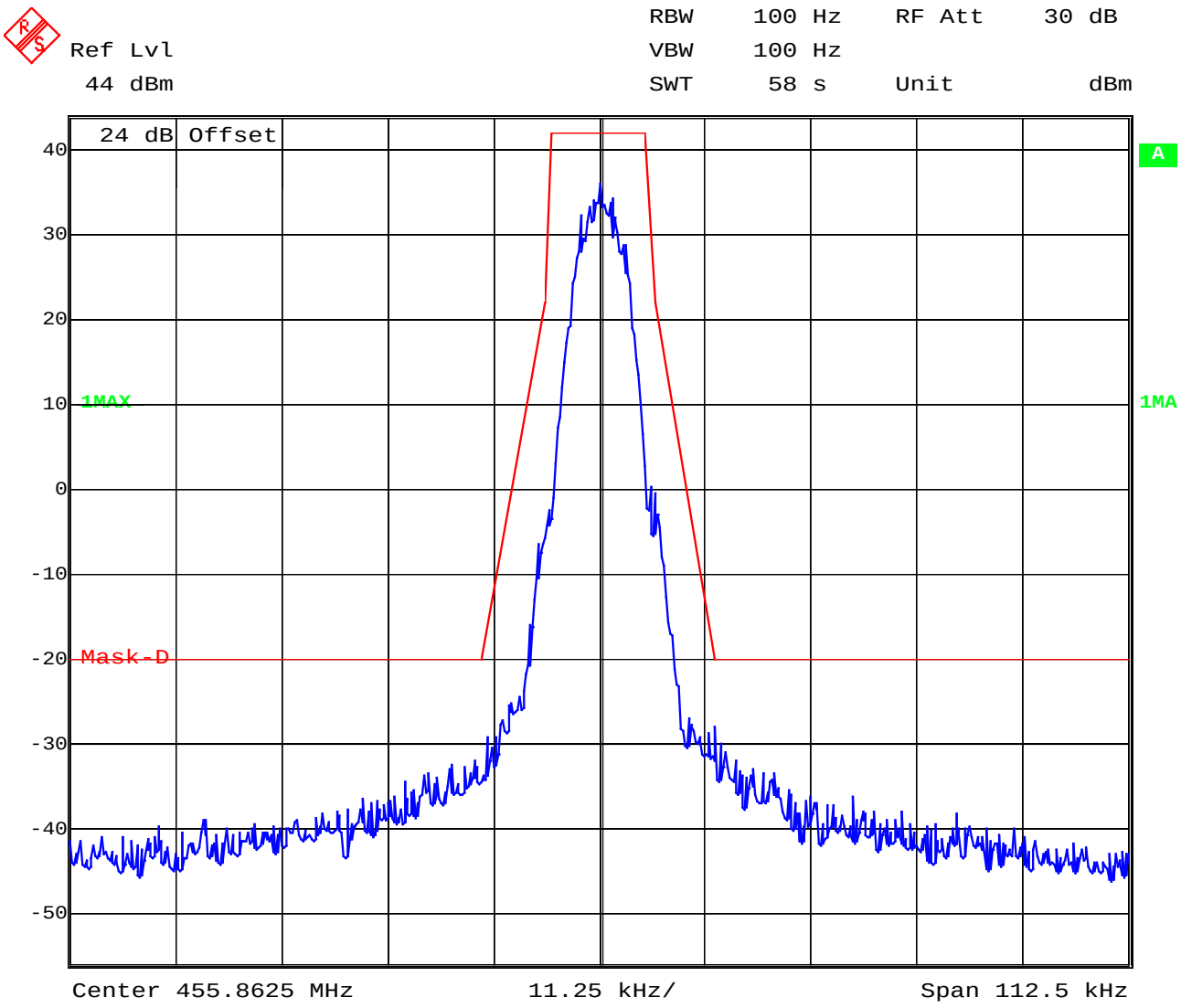
LIMITS **SUBCLAUSE § 90.210**

Emission Mask D – 12.5 kHz channel bandwidth

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
64

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

OCCUPIED BANDWIDTH **§2.989**
455.8625 MHz (max. power / DC)



measured with normal Test modulation : Pseudo random data stream max. 8kBit/s

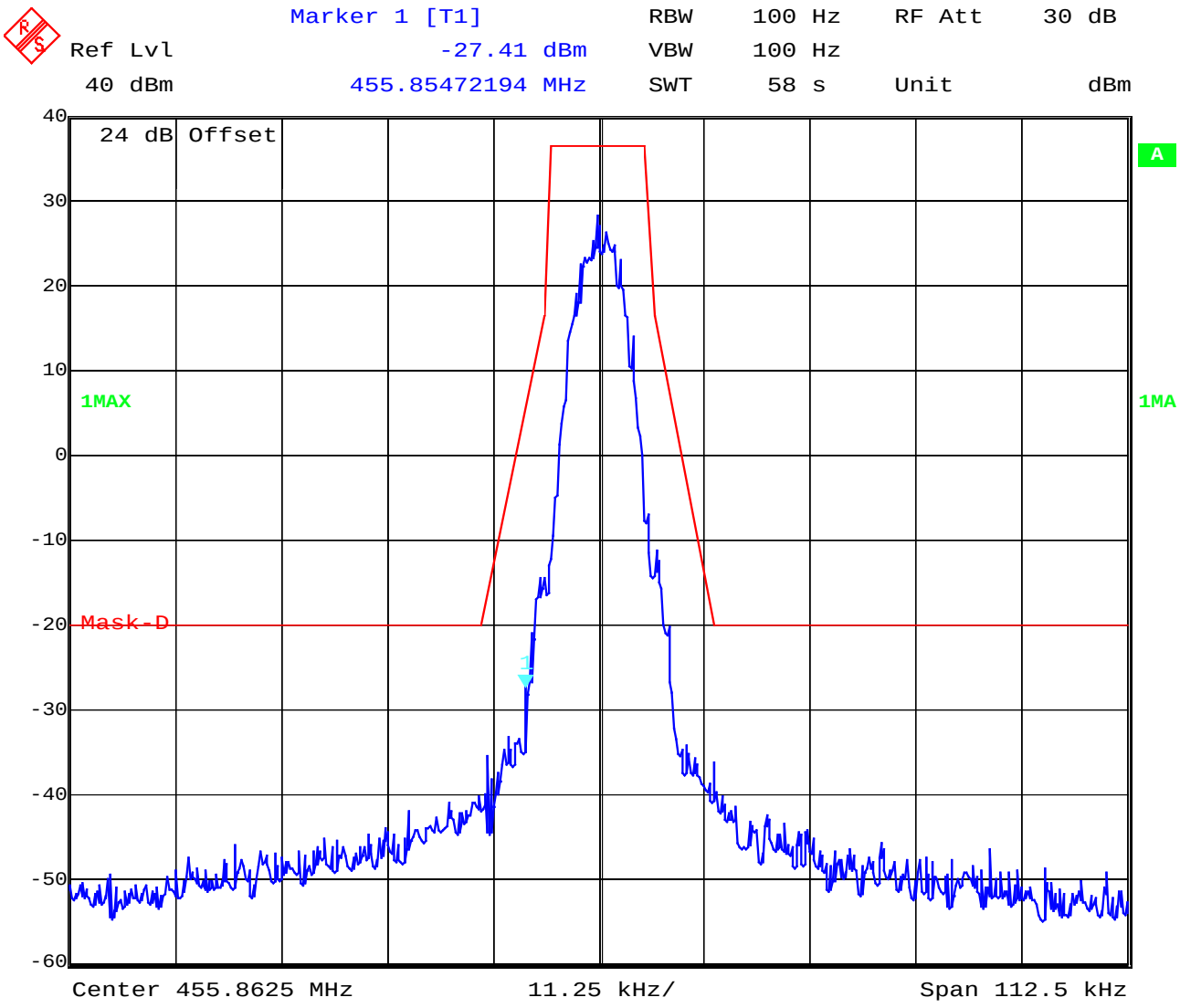
LIMITS **SUBCLAUSE § 90.210**

Emission Mask D – 12.5 kHz channel bandwidth

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

OCCUPIED BANDWIDTH **§2.989**
455.8625 MHz (min. power / AC)



measured with normal Test modulation : Pseudo random data stream max. 8kBit/s

LIMITS **SUBCLAUSE § 90.210**

Emission Mask D – 12.5 kHz channel bandwidth

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
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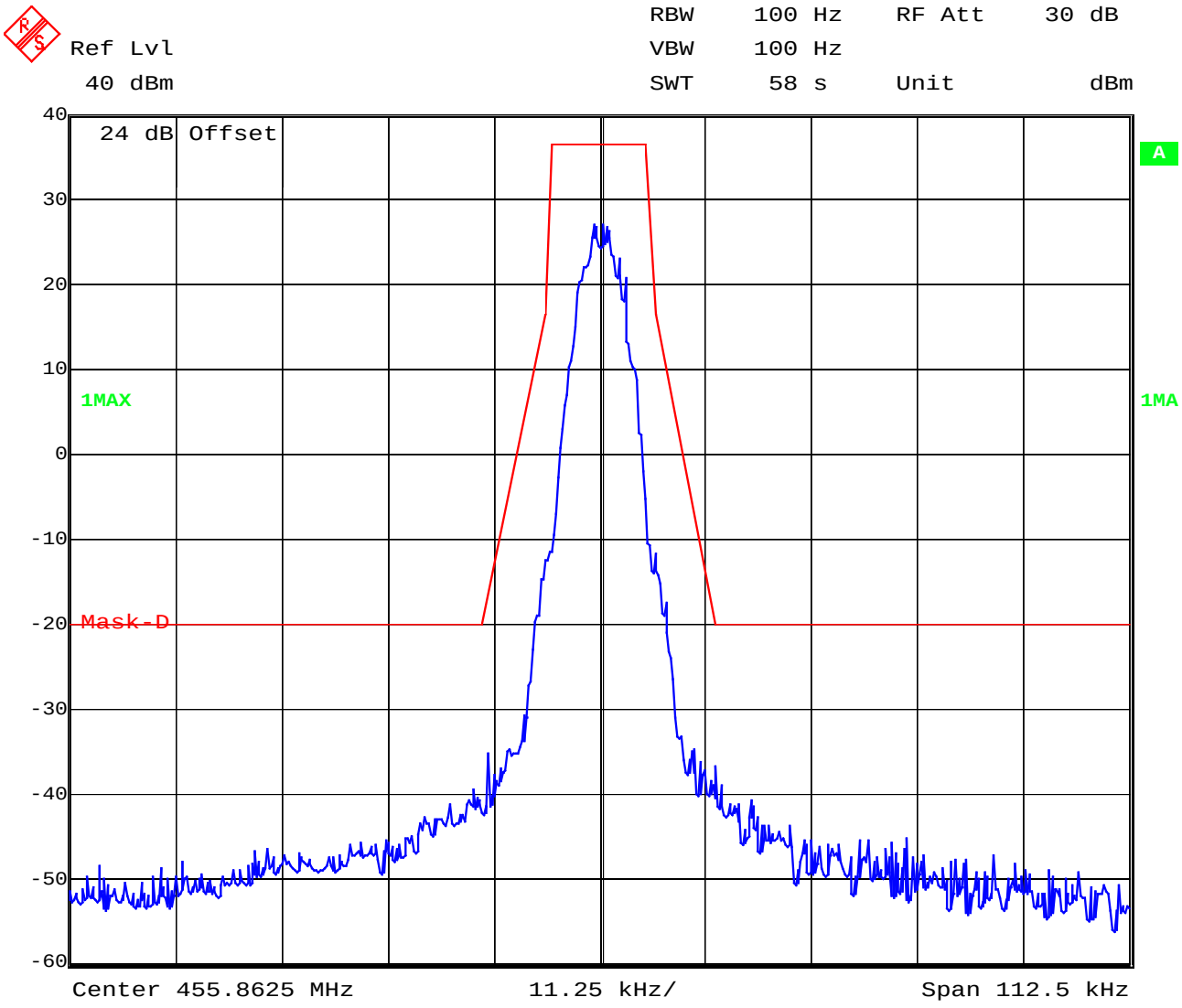
Relative humidity : 40%

OCCUPIED BANDWIDTH **§2.989**
455.8625 MHz (min. power / DC)



measured with normal Test modulation : Pseudo random data stream max. 8kBit/s

LIMITS **SUBCLAUSE § 90.210**

Emission Mask D – 12.5 kHz channel bandwidth

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
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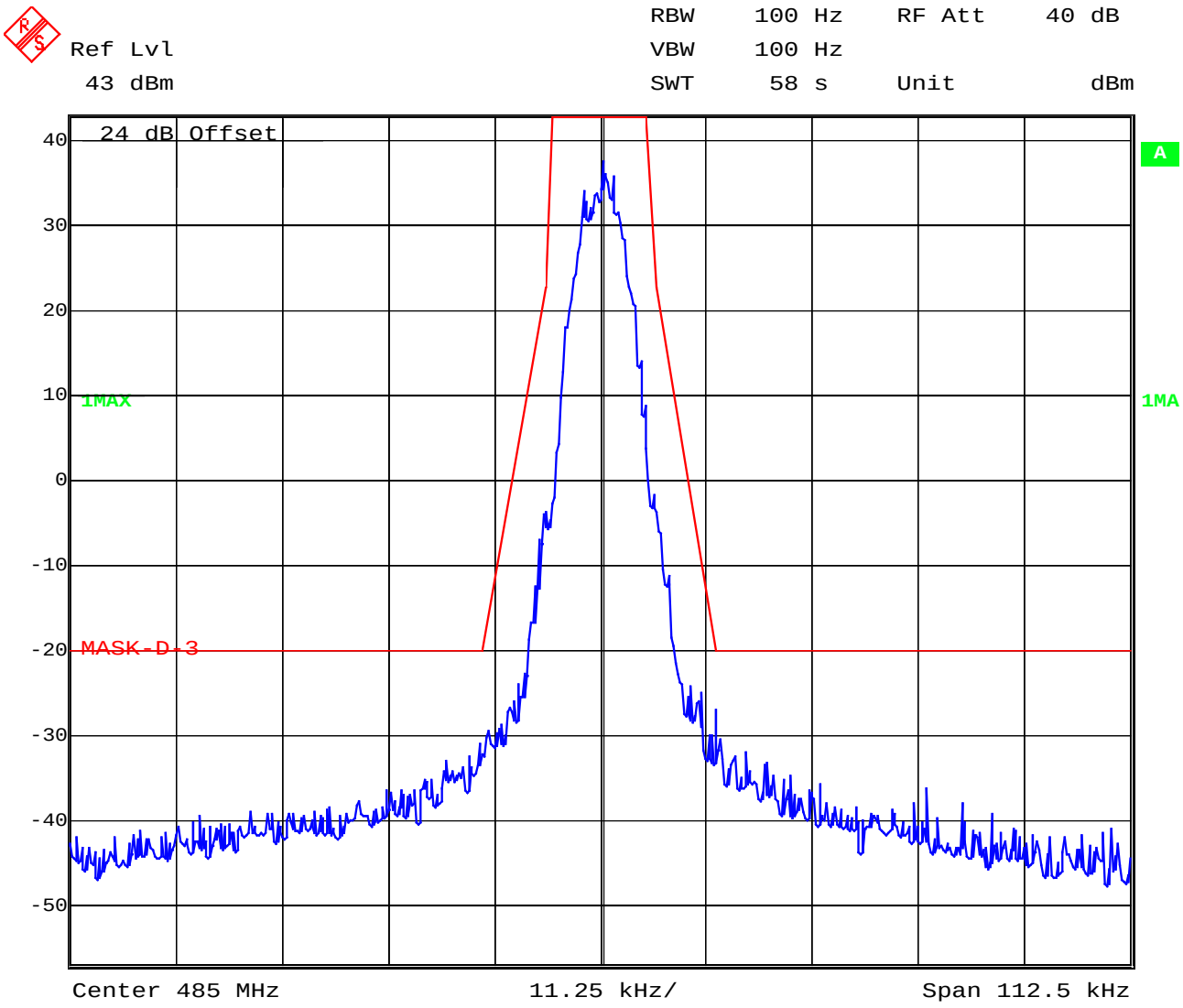
Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

OCCUPIED BANDWIDTH **§2.989**
485 MHz (max. power / AC)



Date: 16.MAY.2002 09:28:35

measured with normal Test modulation : Pseudo random data stream max. 8kBit/s

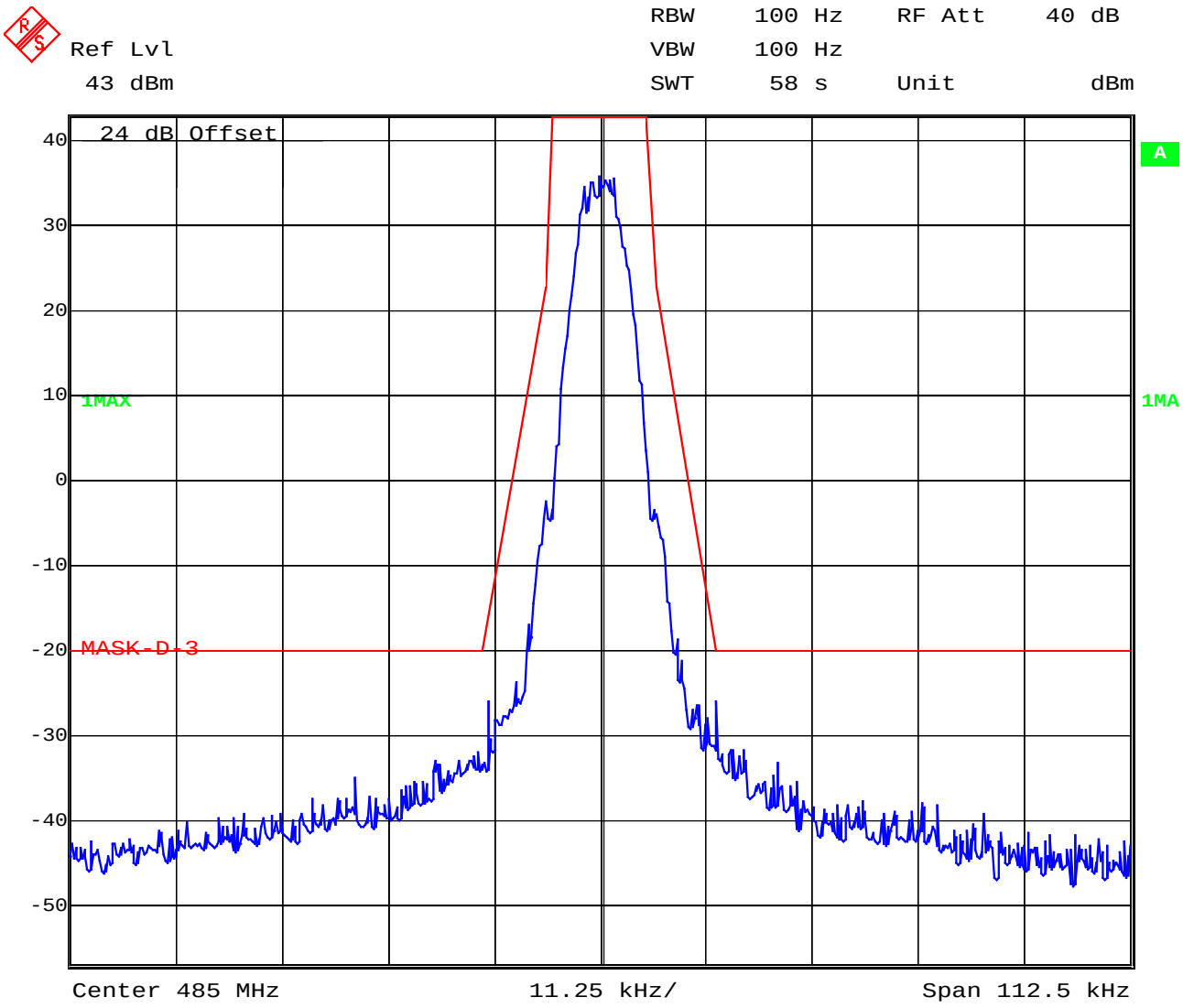
LIMITS **SUBCLAUSE § 90.210**

Emission Mask D – 12.5 kHz channel bandwidth

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

OCCUPIED BANDWIDTH **§2.989**
485 MHz (max. power / DC)



Date: 16.MAY.2002 09:30:26

measured with normal Test modulation : Pseudo random data stream max. 8kBit/s

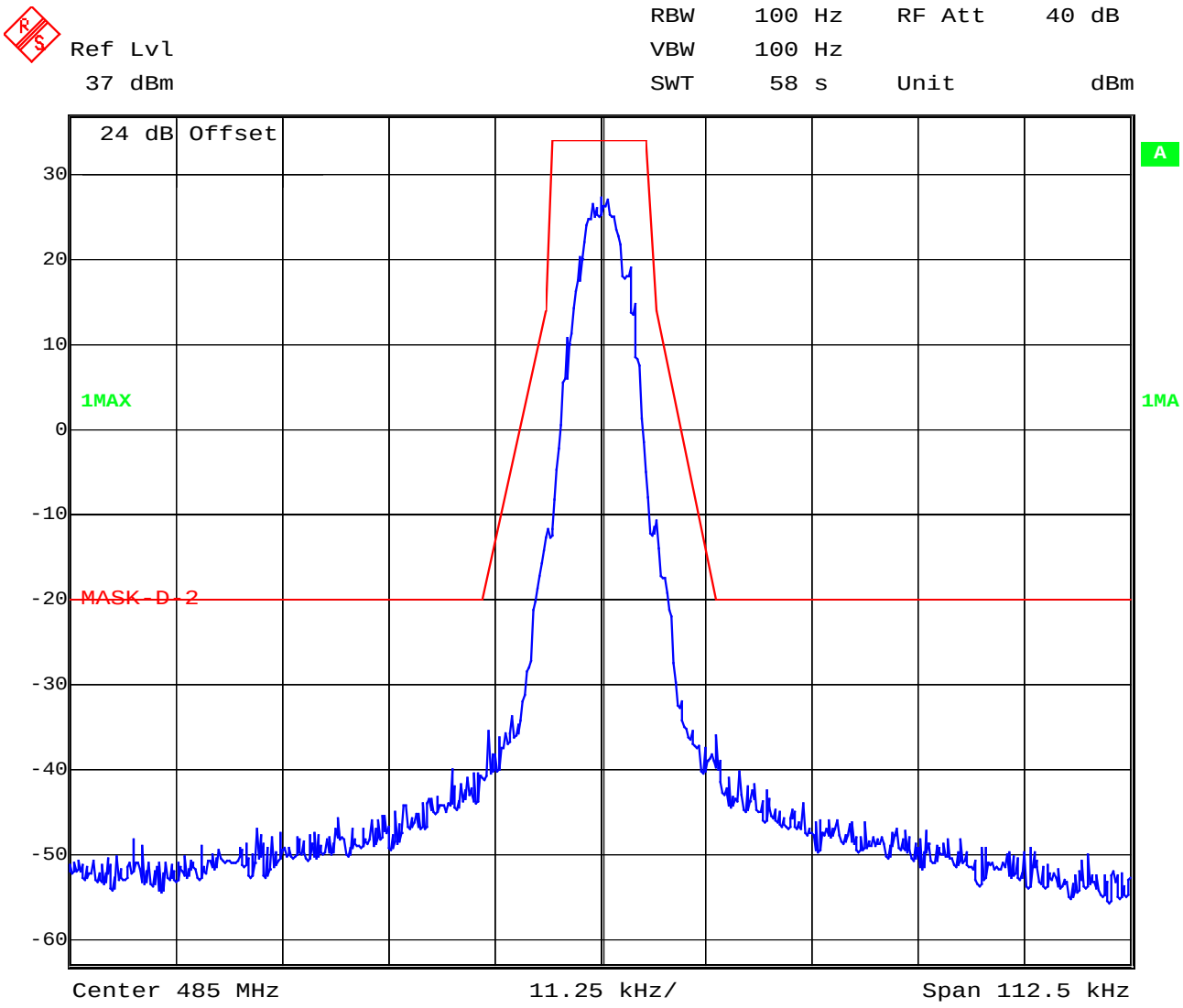
LIMITS **SUBCLAUSE § 90.210**

Emission Mask D – 12.5 kHz channel bandwidth

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

OCCUPIED BANDWIDTH **§2.989**
485 MHz (min. power / AC)



measured with normal Test modulation : Pseudo random data stream max. 8kBit/s

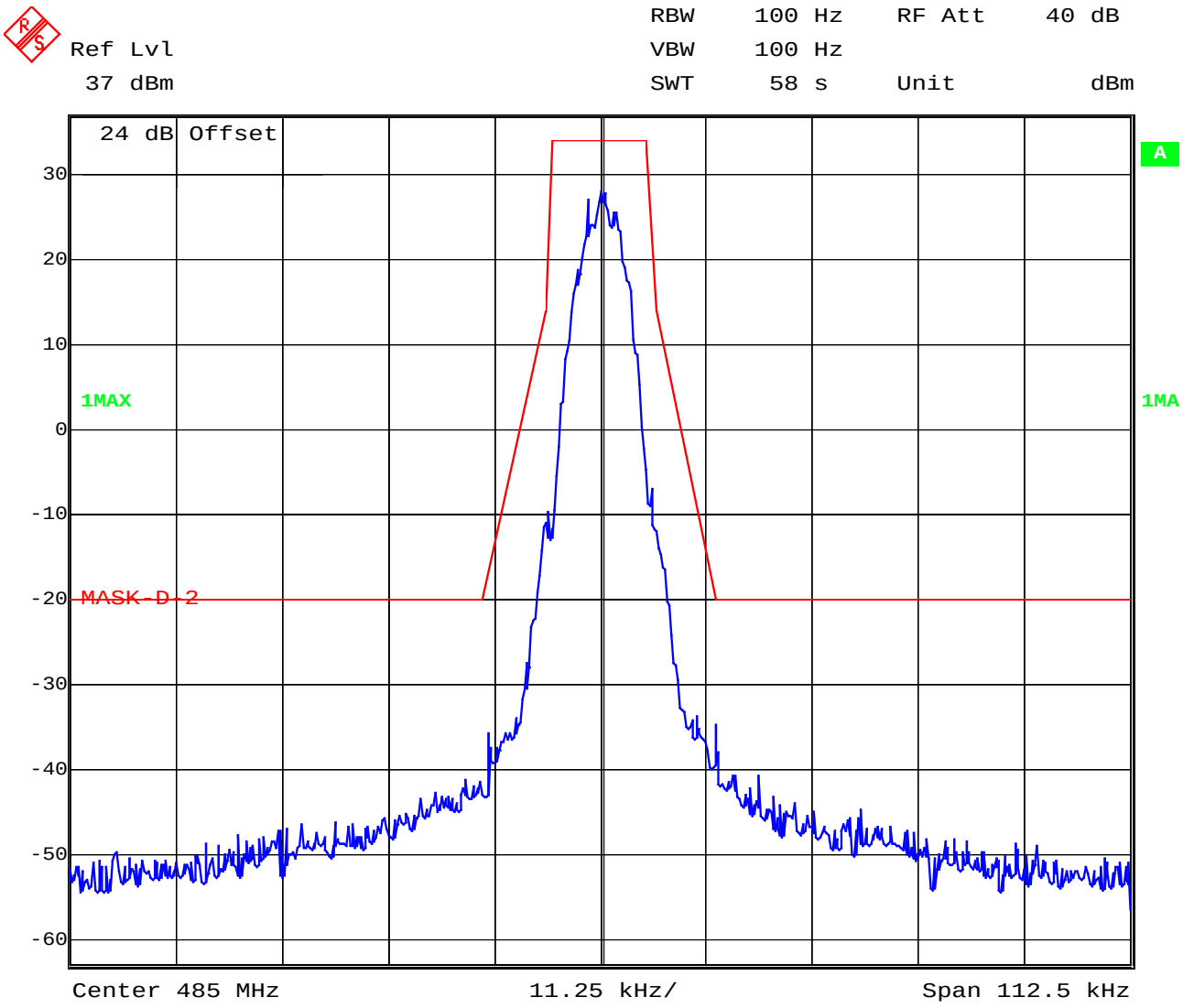
LIMITS **SUBCLAUSE § 90.210**

Emission Mask D – 12.5 kHz channel bandwidth

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

OCCUPIED BANDWIDTH **§2.989**
485 MHz (min. power / DC)



Date: 16.MAY.2002 09:22:54

measured with normal Test modulation : Pseudo random data stream max. 8kBit/s

LIMITS **SUBCLAUSE § 90.210**

Emission Mask D – 12.5 kHz channel bandwidth

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

MAXIMUM PEAK OUTPUT POWER SUBCLAUSE § 2.1046 (conducted)

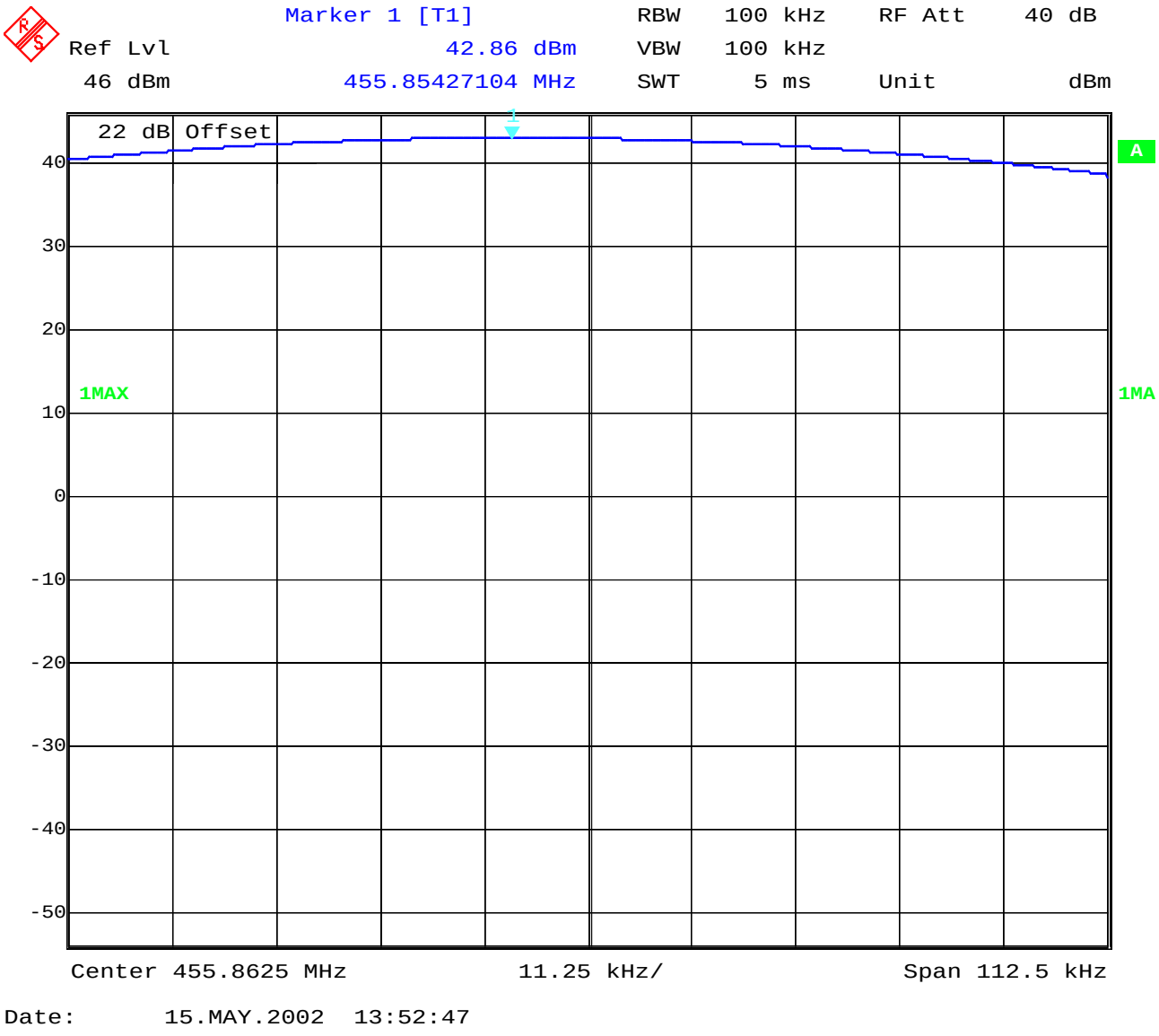
TEST CONDITIONS			MAXIMUM PEAK OUTPUT POWER (W)				
Frequency (MHz)			AC 110V			DC 13.2 V	
			455.8625	485		455.8625	485
T_{nom}(23)°C	V_{nom} (110/13,2)V	Min	2.57	2.56		2.51	2.51
		Max	19.32	19.28		18.54	18.37
Maximum deviation from output power under extreme test conditions (dBc)			not applicable	not applicable		not applicable	
Measurement uncertainty			±0.5dB				

RBW / VBW : 1000 kHz

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

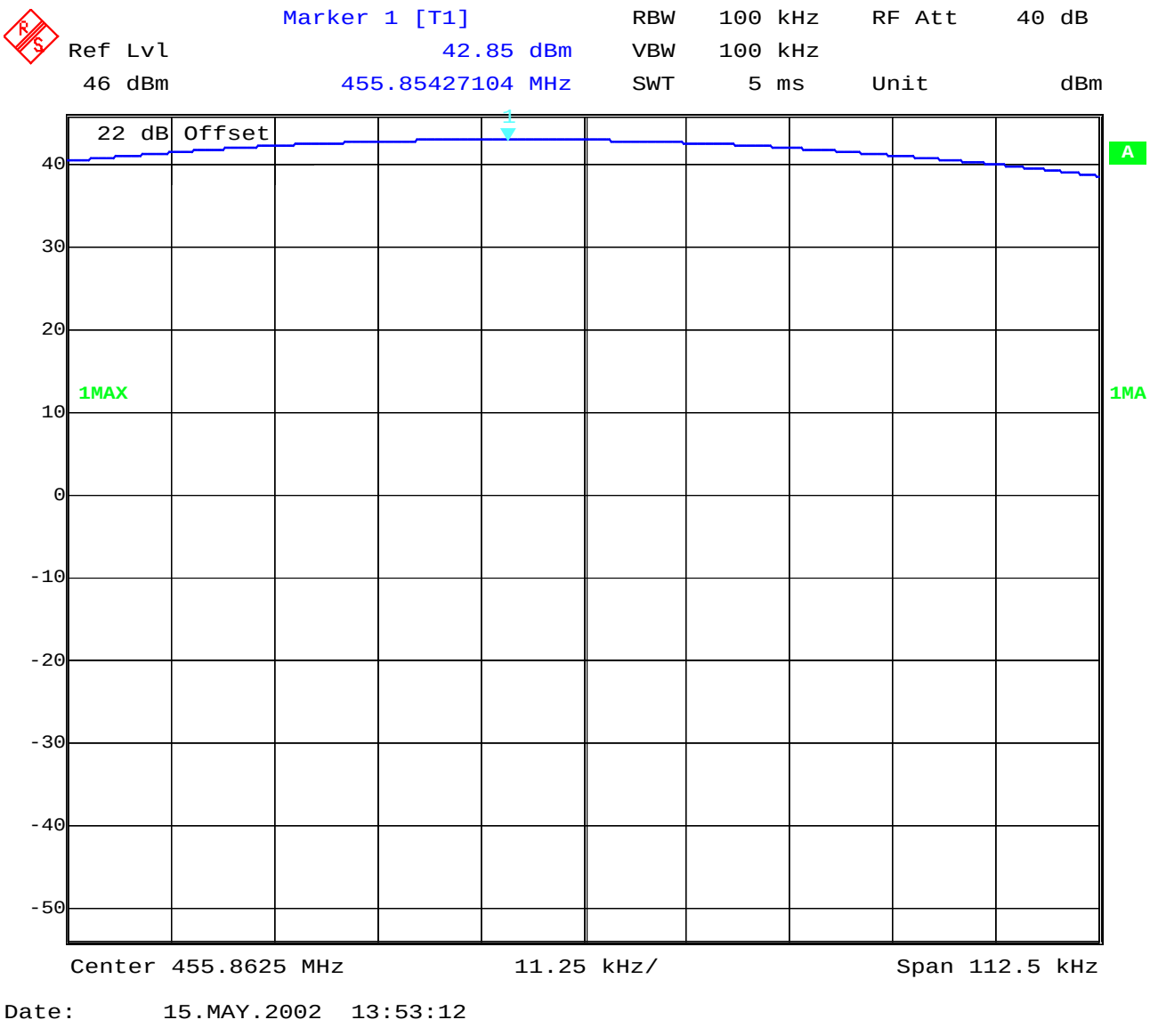
Peak output power (conducted)
455.8625 MHz (max. power /AC)



REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

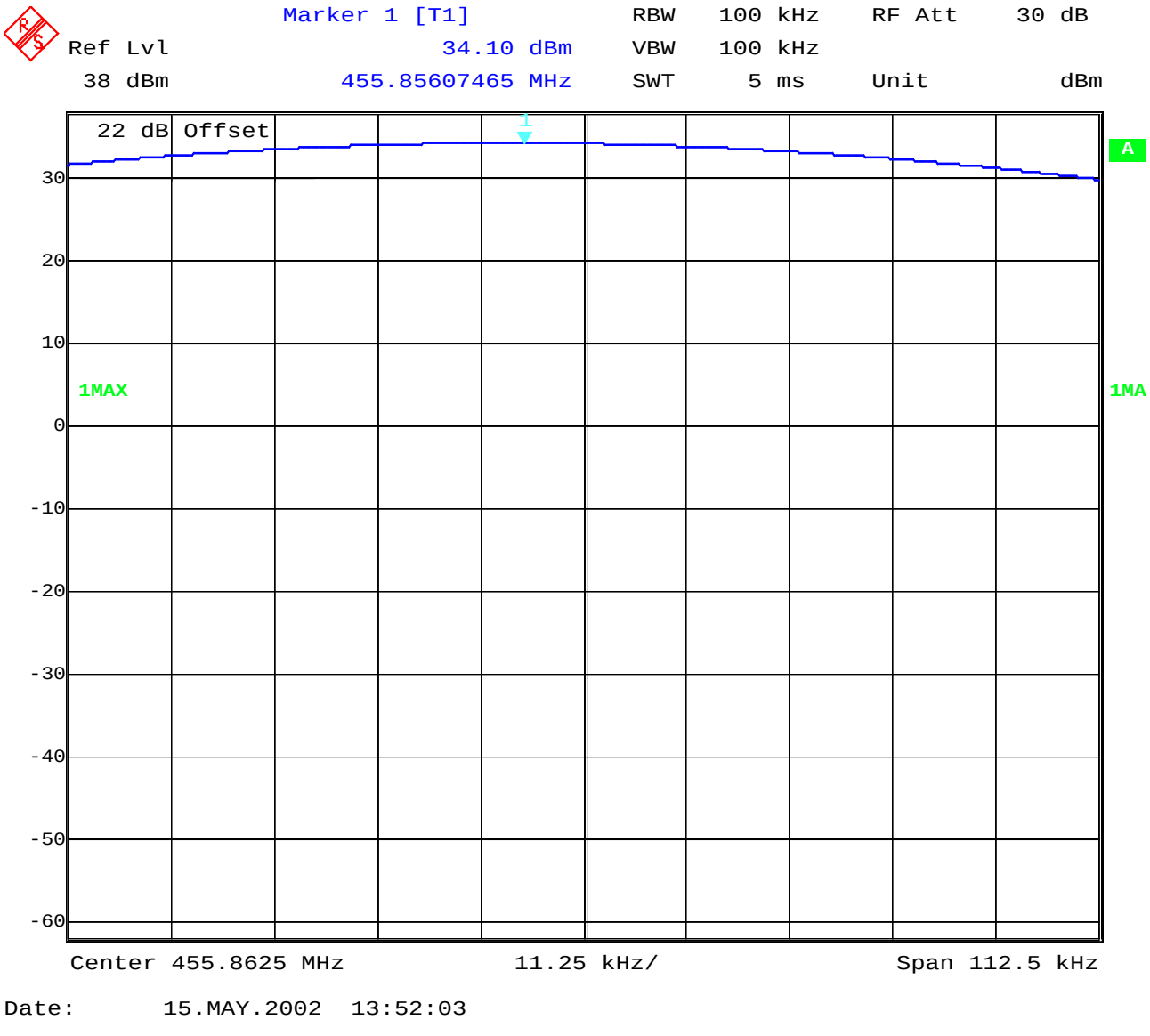
Peak output power (conducted)
455.8625 MHz (max. power /DC)



REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

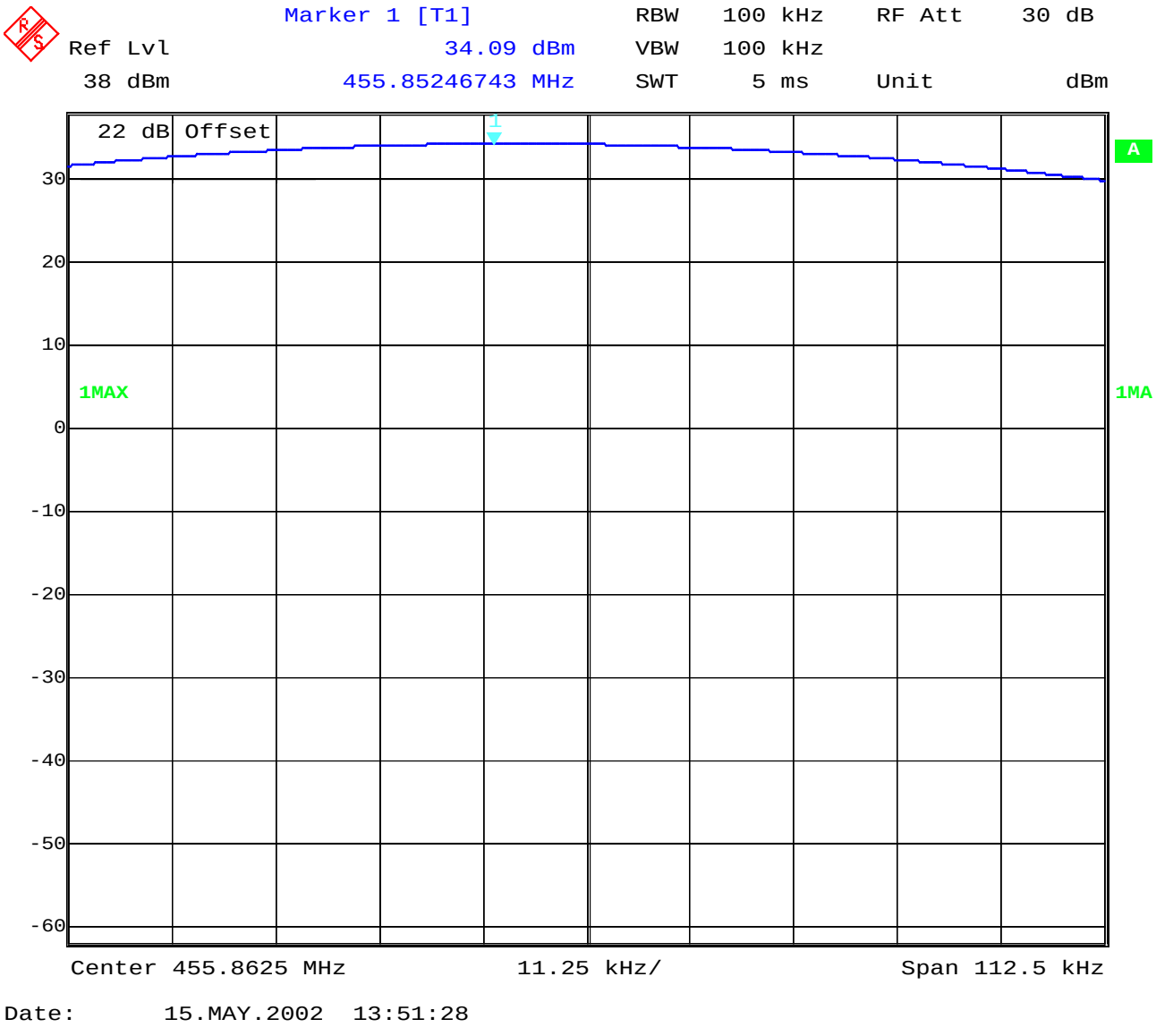
Peak output power (conducted)
455.8625 MHz (min. power /AC)



REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

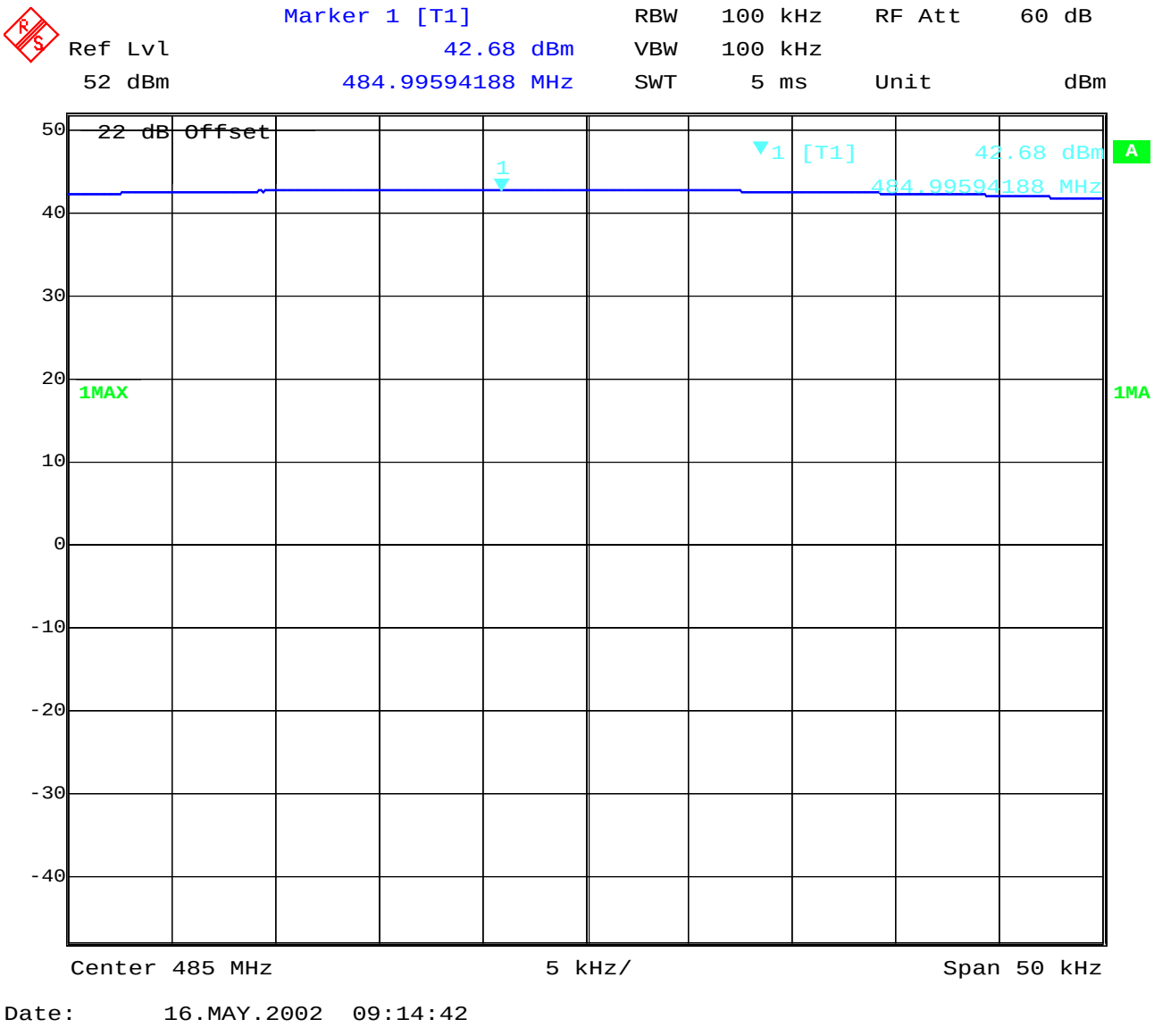
Peak output power (conducted)
455.8625 MHz (min. power /DC)



REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

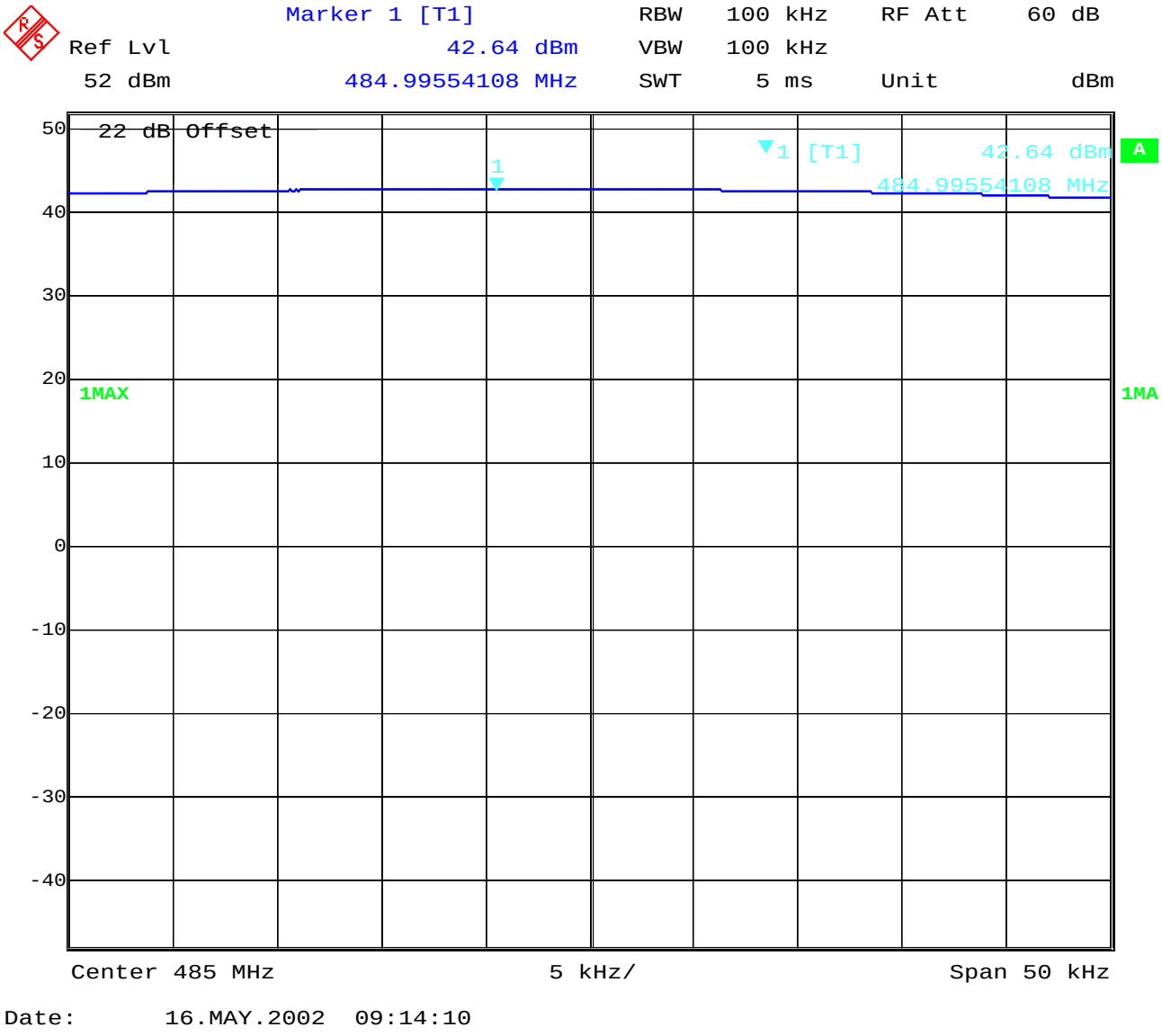
Peak output power (conducted)
485 MHz (max. power /AC)



REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

Peak output power (conducted)
485 MHz (max. power /DC)



REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
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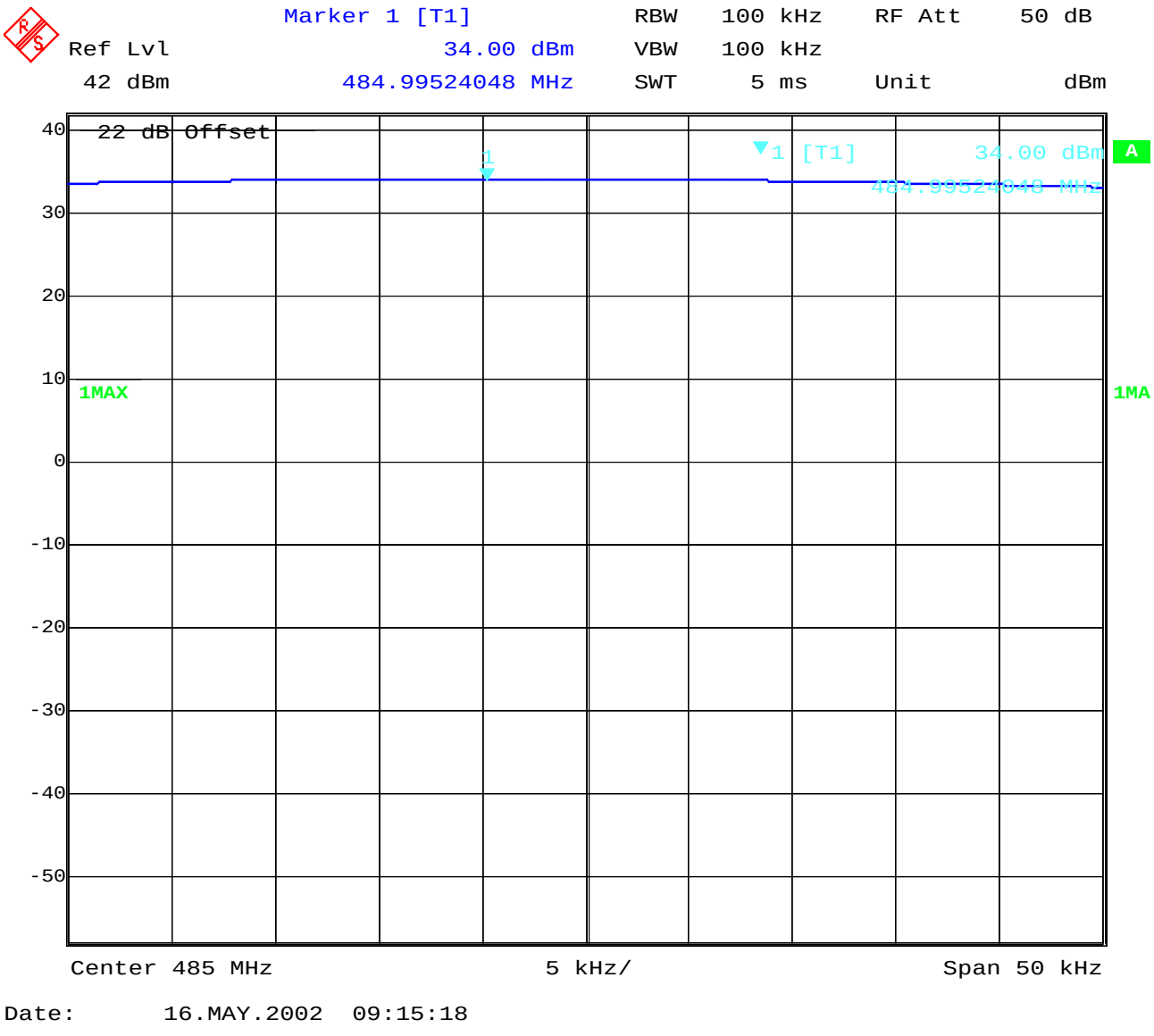
Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

Peak output power (conducted)
485 MHz (min. power /AC)



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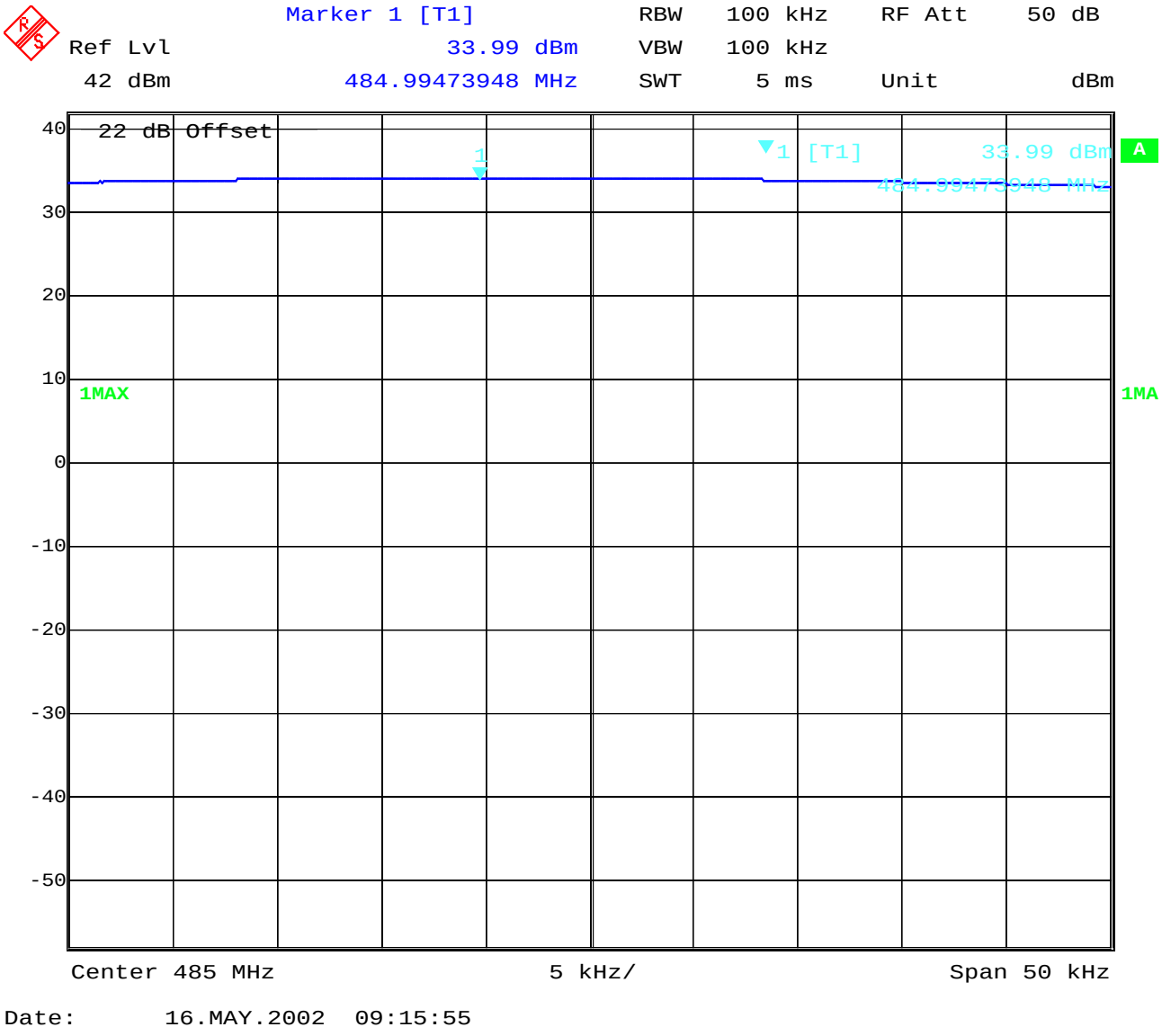
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

Peak output power (conducted)
485 MHz (min. power /DC)



REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

CONDUCTED SPURIOUS EMISSIONS § 2.991

EMISSION LIMITATIONS					
f (MHz)		**amplitude of emission (dBm)**	**limit max. allowed emmision power**	**actual attenuation below frequency of operation (dB)**	**results**
See plots ; all peaks << Limit (-20 dBm)					
Measurement uncertainty		**± 3dB**			

RBW : 100 kHz VBW: 1 MHz
At all measurements the carrier was notched with a rejection filter (TELONIC TTR 375-3EE; S/N 95052-1)

LIMITS SUBCLAUSE § 2.991

Conducted spurious emissions shall be attenuated below the maximum level of emission of the carrier frequency in accordance with the following formula:
For 12.5 kHz channel bandwidth :

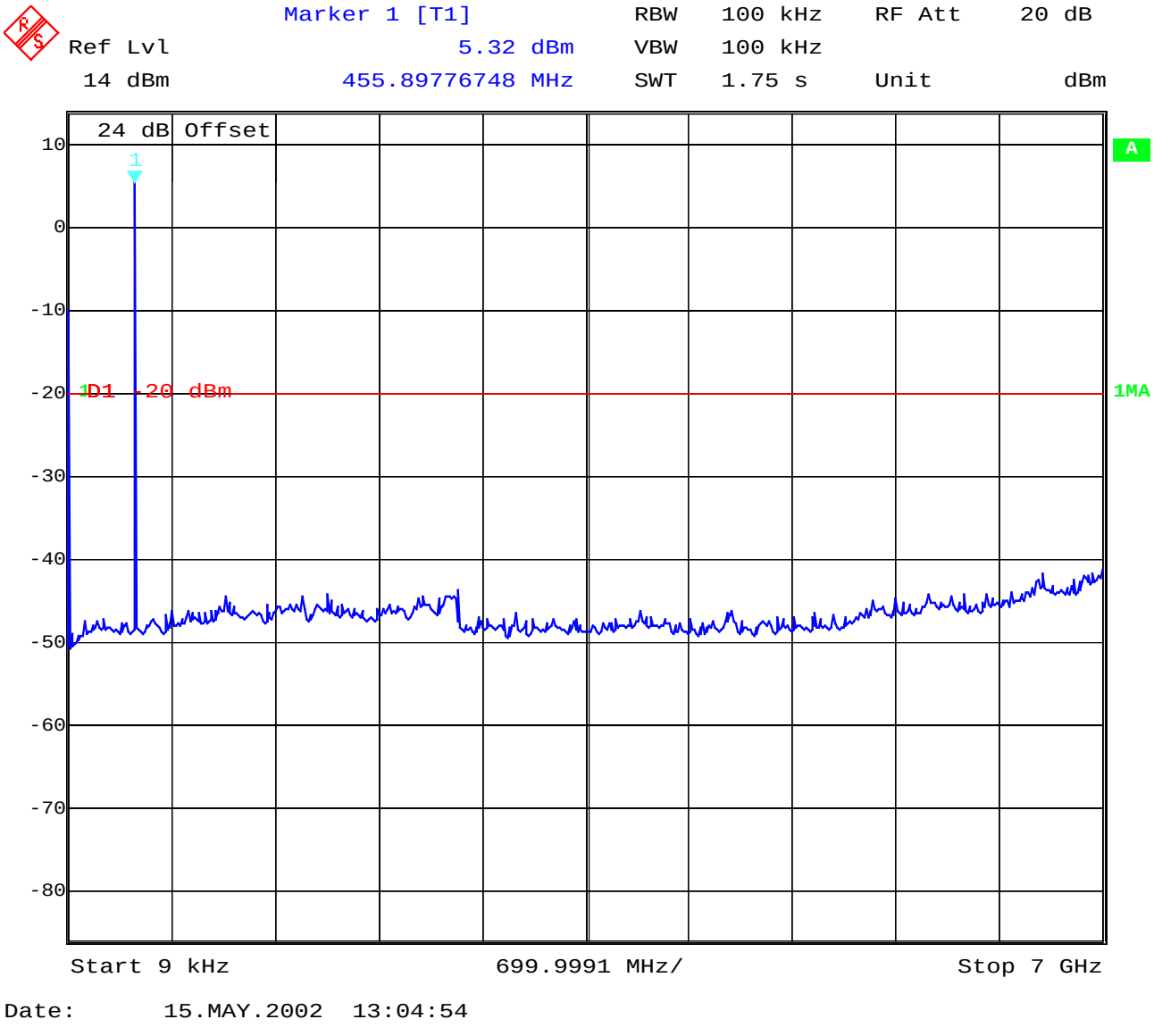
Spurious attenuation in dB = $50+10\log_{10}$ (Power output in watt)

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

CONDUCTED SPURIOUS EMISSIONS § 2.991

455.8625 MHz (max. power /AC)

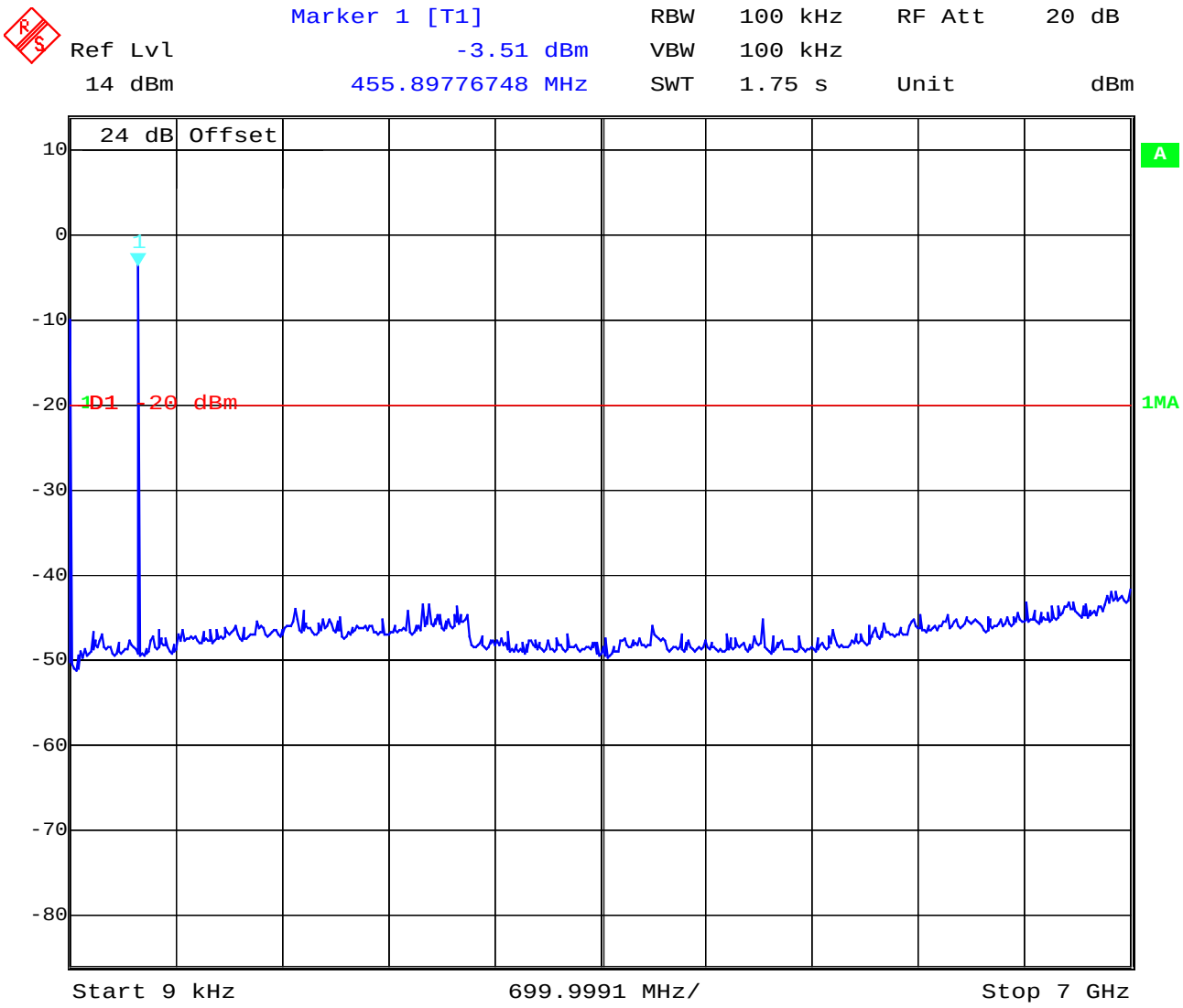


REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

CONDUCTED SPURIOUS EMISSIONS § 2.991

455.8625 MHz (min. power /AC)

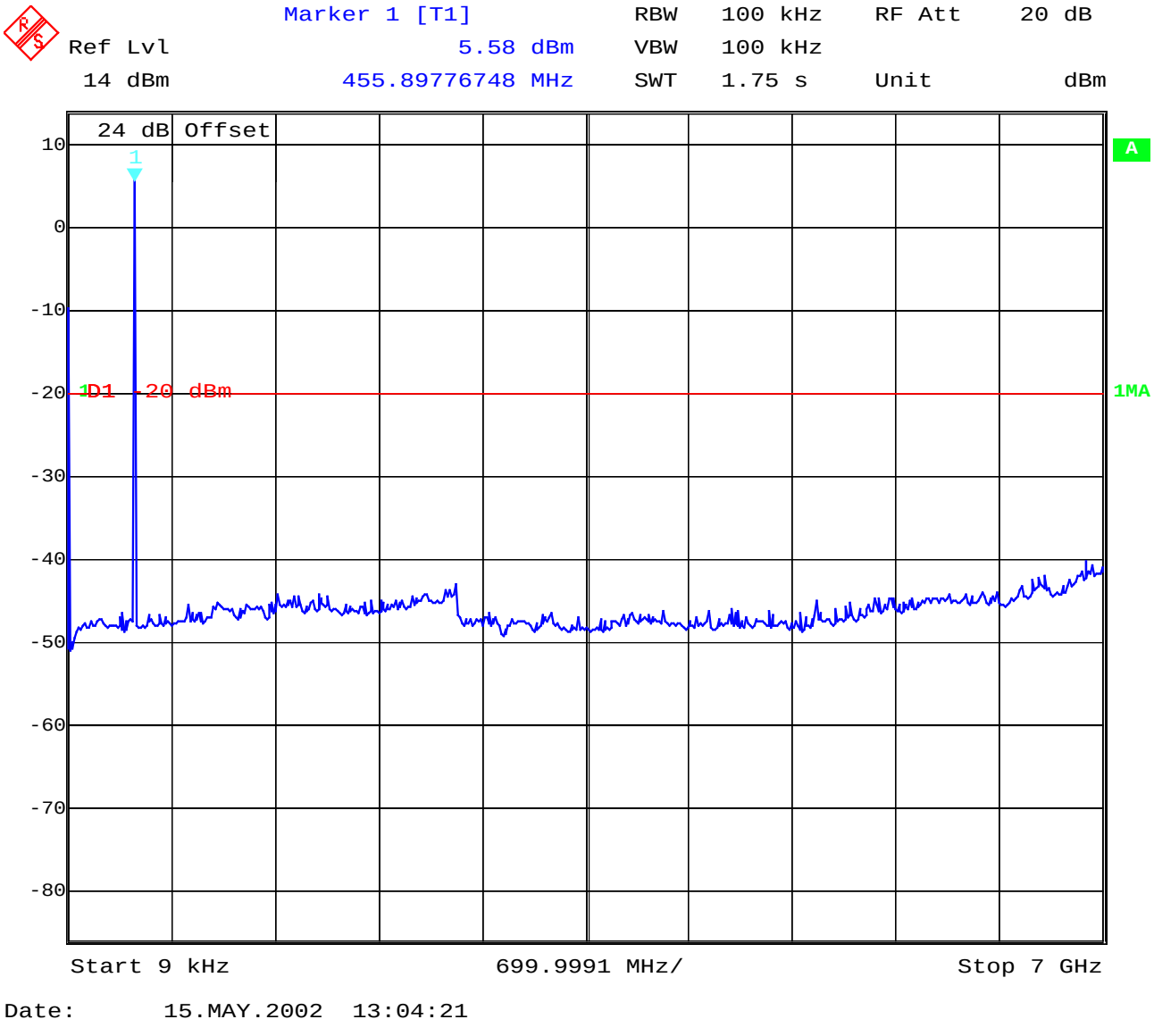


REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

CONDUCTED SPURIOUS EMISSIONS § 2.991

455.8625 MHz (max. power /DC)



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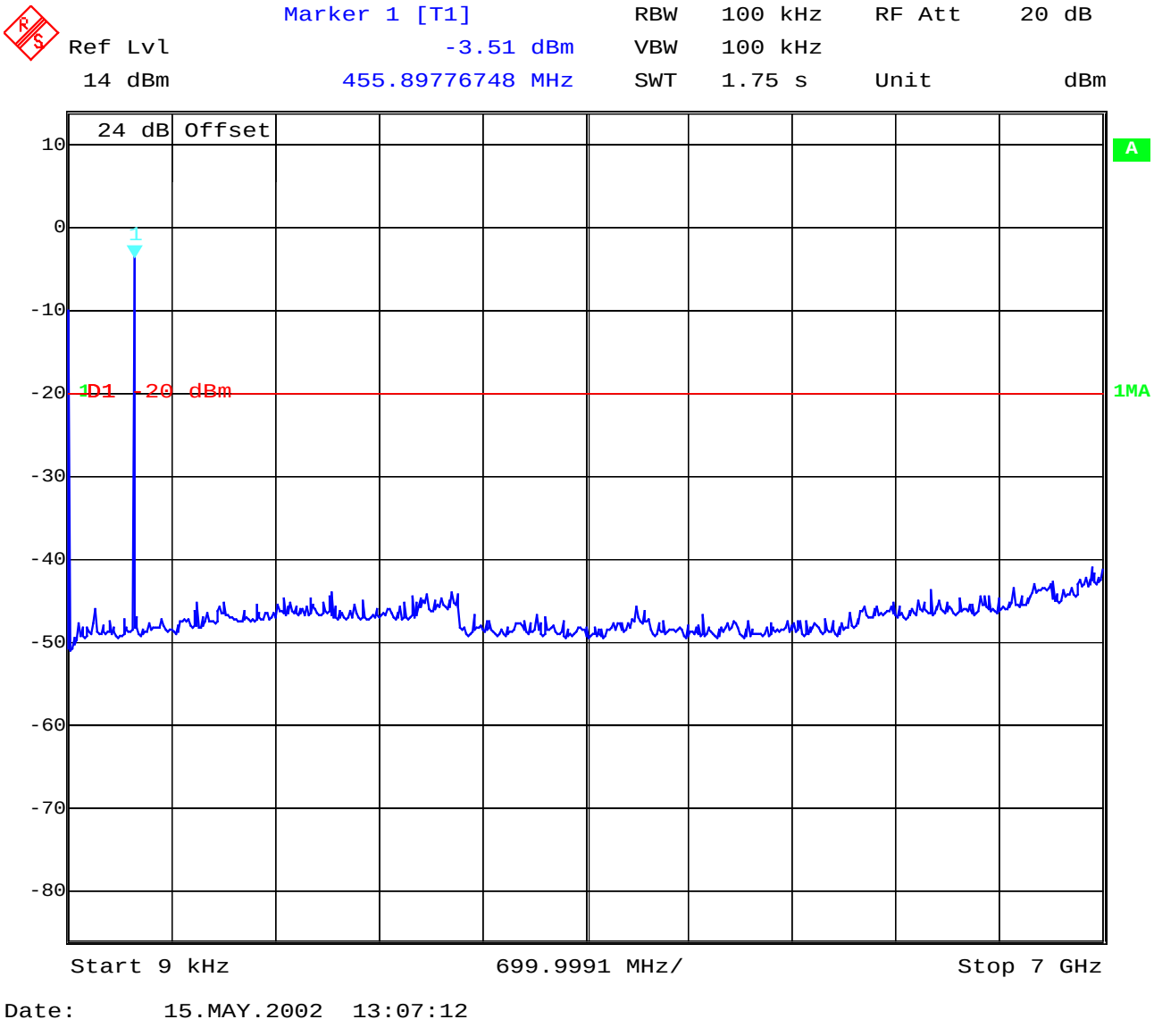
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

CONDUCTED SPURIOUS EMISSIONS § 2.991

455.8625 MHz (min. power /DC)



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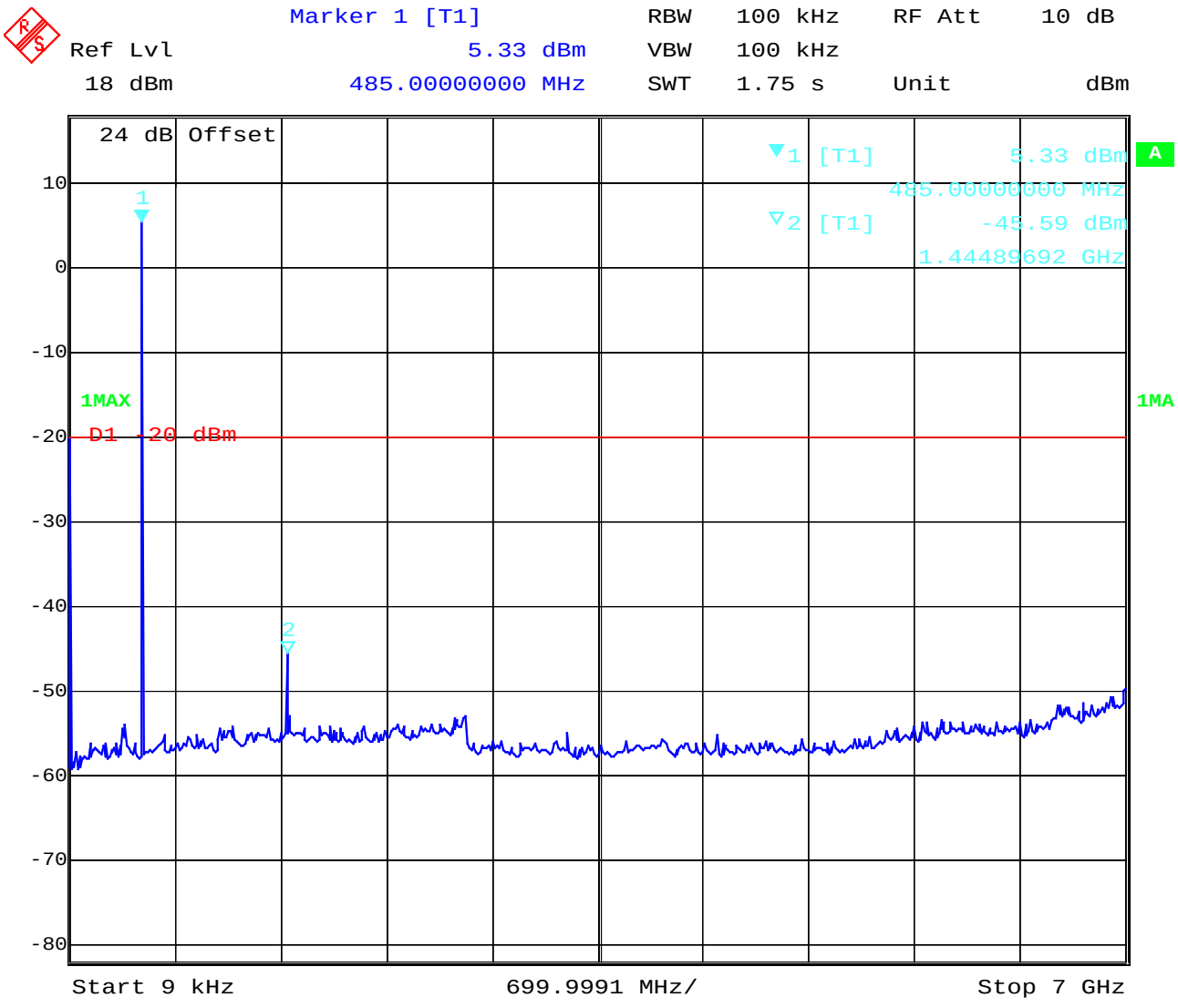
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

CONDUCTED SPURIOUS EMISSIONS § 2.991

485 MHz (max. power /AC)



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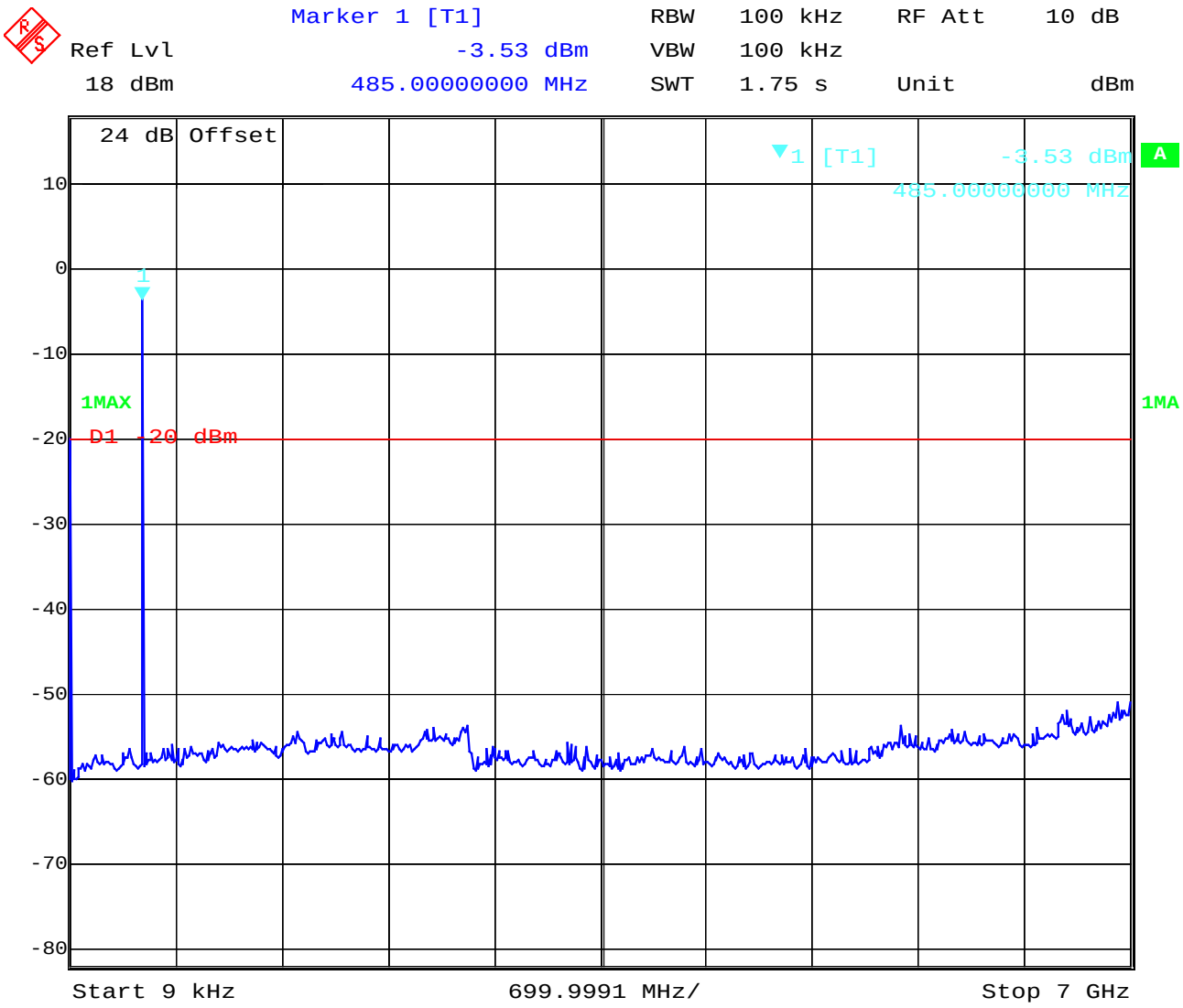
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

CONDUCTED SPURIOUS EMISSIONS § 2.991

485 MHz (min. power /AC)



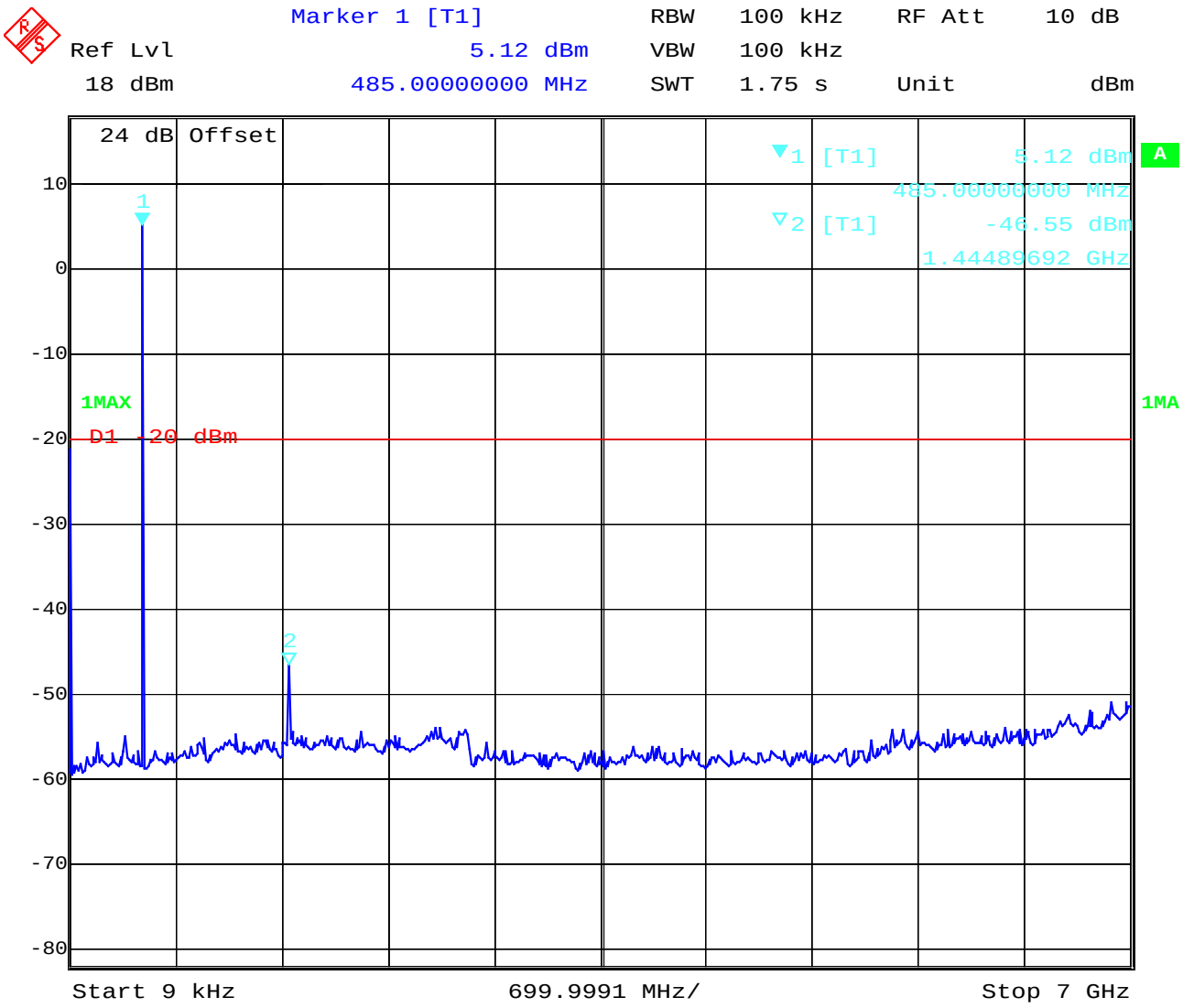
Date: 16.MAY.2002 08:53:29

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

CONDUCTED SPURIOUS EMISSIONS § 2.991

485 MHz (max. power /DC)



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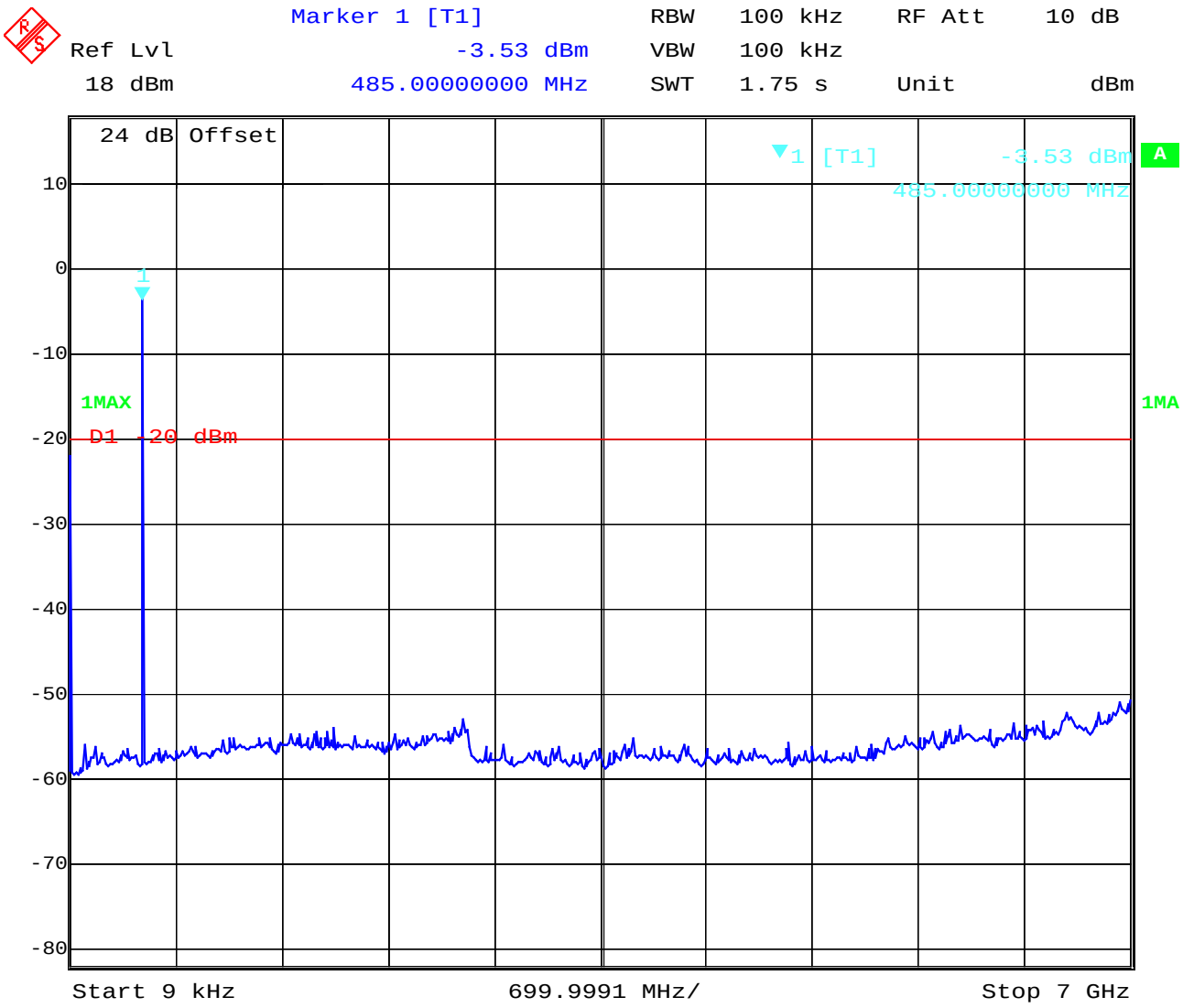
CONDUCTED SPURIOUS EMISSIONS § 2.991

485 MHz (min. power /DC)



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REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RADIATED SPURIOUS EMISSION §2.1053

Measured with DC and AC

EMISSION LIMITATIONS					
f (MHz)	**Polari-zation**	**amplitude of emission (dBm)**	**limit max. allowed emmision power**	**actual attenuation below frequency of operation (dB)**	**results**
455,6825 MHz					
all	**peaks**	**>20 dB**	**below**	**Limit**	
485 MHz					
all	**peaks**	**>20 dB**	**below**	**Limit**	
Measurement uncertainty		**± 3dB**			

At all measurements the carrier was notched with a rejection filter (TELONIC TTR 375-3EE; S/N 95052-1)

The test setups for transmitter spurious radiated measurements are according ANSI C63.4 Clause 11

LIMITS **SUBCLAUSE § 2.1053**

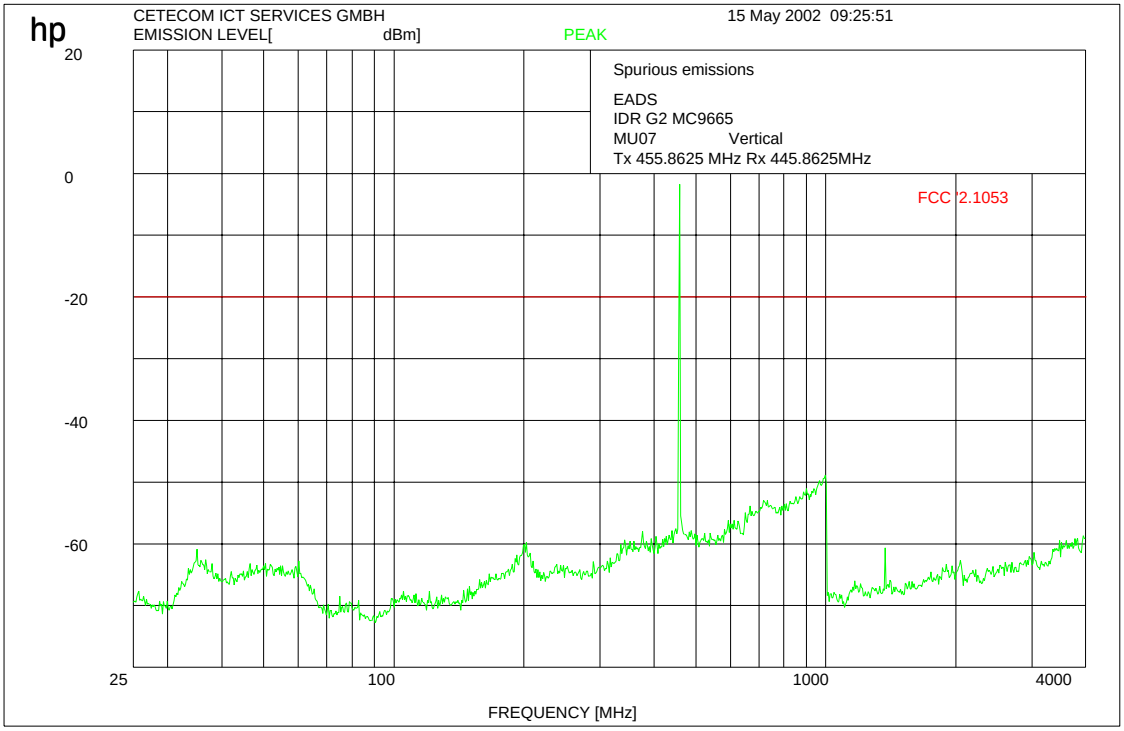
Spurious emissions shall be attenuated below the maximum level of emission of the carrier frequency in accordance with the following formula:
For 12.5 kHz channel bandwidth :

Spurious attenuation in dB = $50+10\log_{10}$ (Power output in watt)

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RADIATED SPURIOUS EMISSIONS
455.8625 MHz (max. power /AC)



f < 1 GHz : RBW/VBW: 100 kHz **f ≥ 1GHz : RBW/VBW: 1 MHz**

LIMITS **SUBCLAUSE § 2.1053**

Spurious emissions shall be attenuated below the maximum level of emission of the carrier frequency in accordance with the following formula:
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(for reference numbers see test equipment listing)
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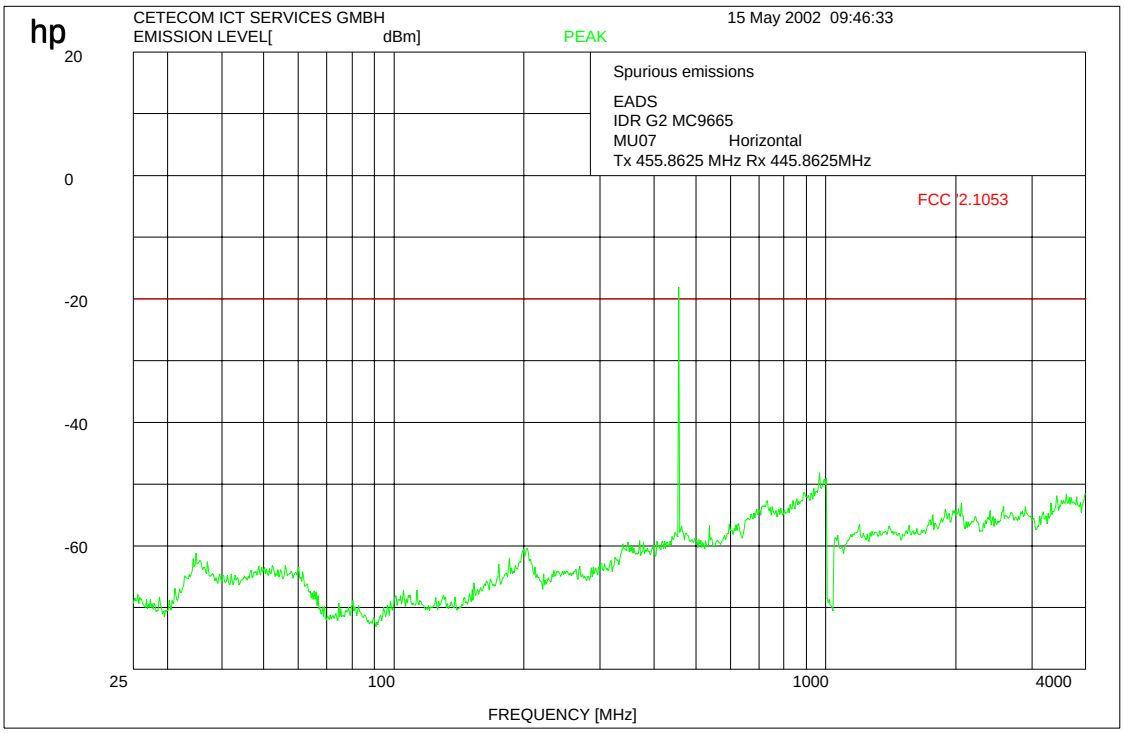
RADIATED SPURIOUS EMISSIONS
455.8625 MHz (max. power /AC)



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LIMITS **SUBCLAUSE § 2.1053**

Spurious emissions shall be attenuated below the maximum level of emission of the carrier frequency in accordance with the following formula:
For 12.5 kHz channel bandwidth :
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(for reference numbers see test equipment listing)
17 - 24

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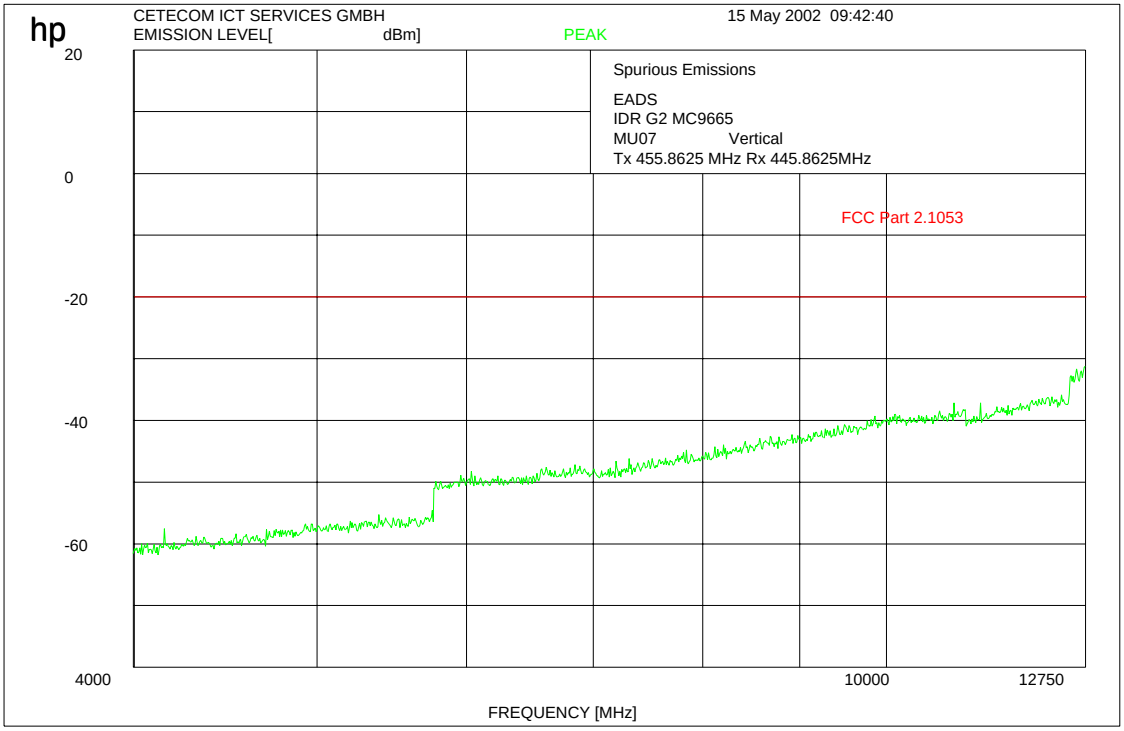
Relative humidity : 40%

RADIATED SPURIOUS EMISSIONS
455.8625 MHz (max. power /AC)



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LIMITS **SUBCLAUSE § 2.1053**

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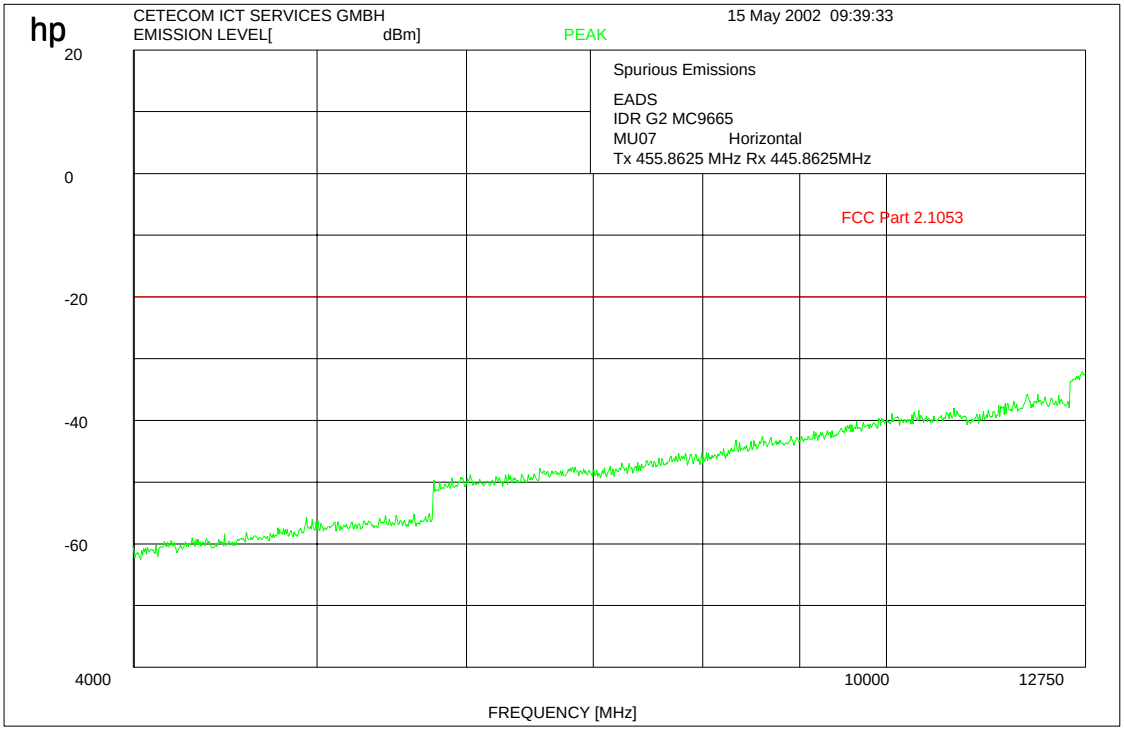
RADIATED SPURIOUS EMISSIONS
455.8625 MHz (max. power /AC)



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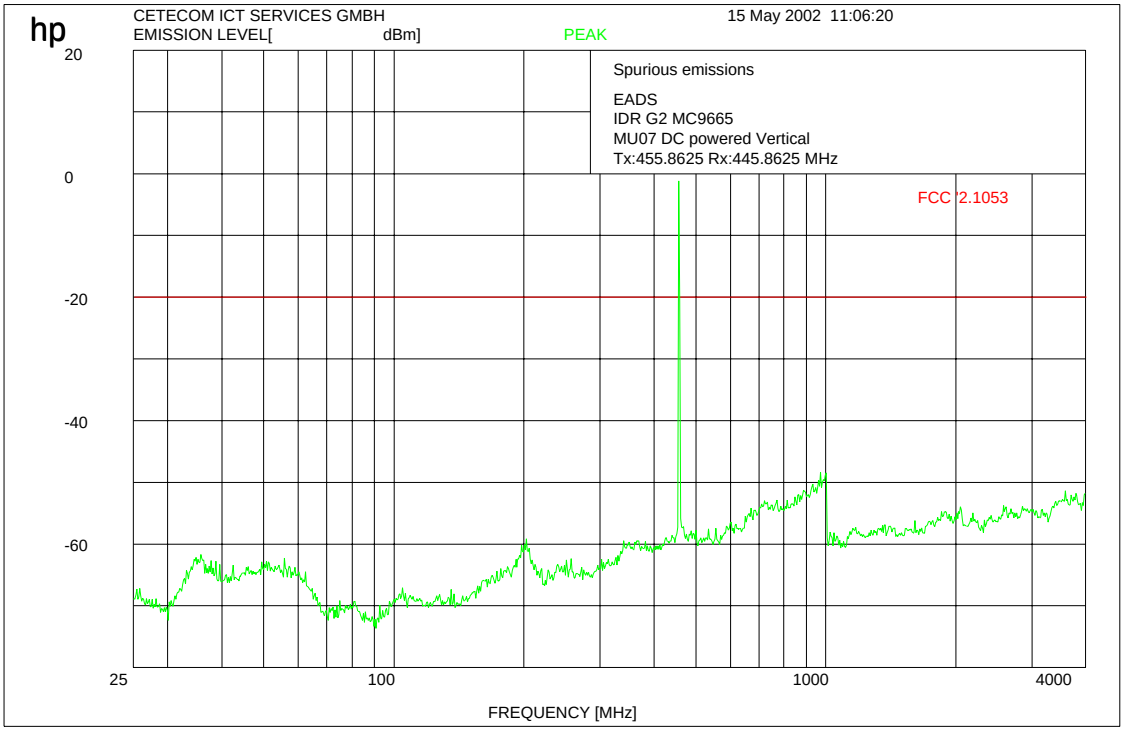
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RADIATED SPURIOUS EMISSIONS
455.8625 MHz (max. power /DC)



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(for reference numbers see test equipment listing)
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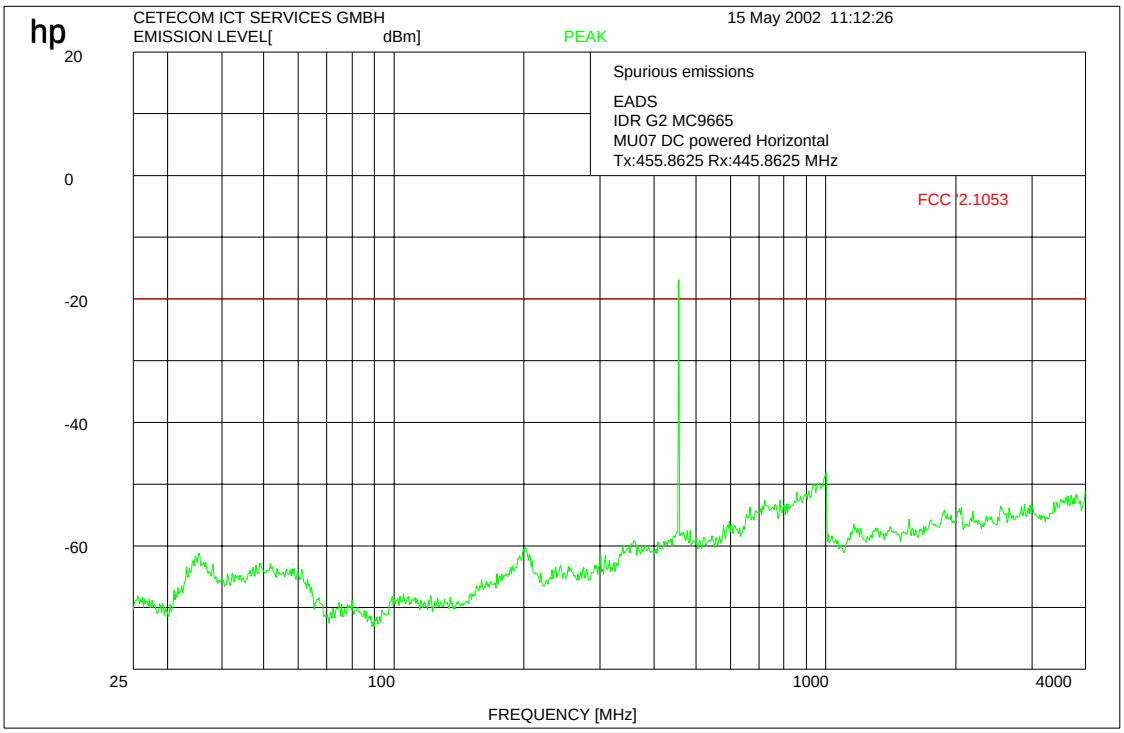
RADIATED SPURIOUS EMISSIONS
455.8625 MHz (max. power /DC)



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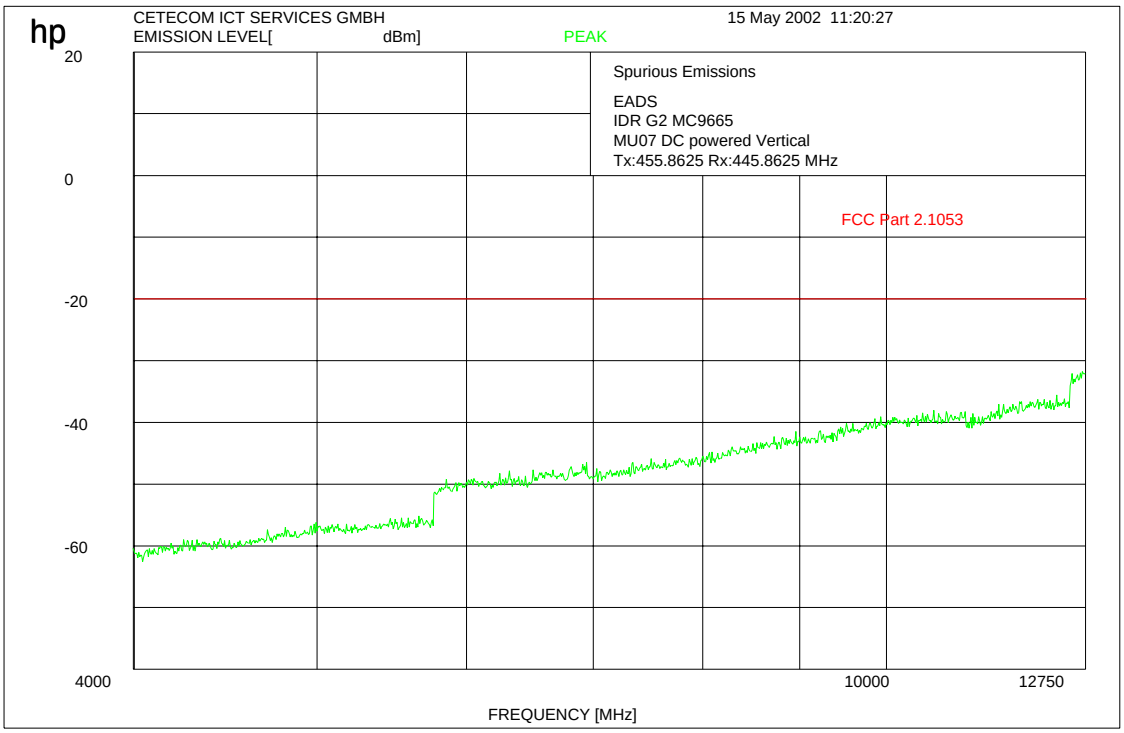
RADIATED SPURIOUS EMISSIONS
455.8625 MHz (max. power /DC)



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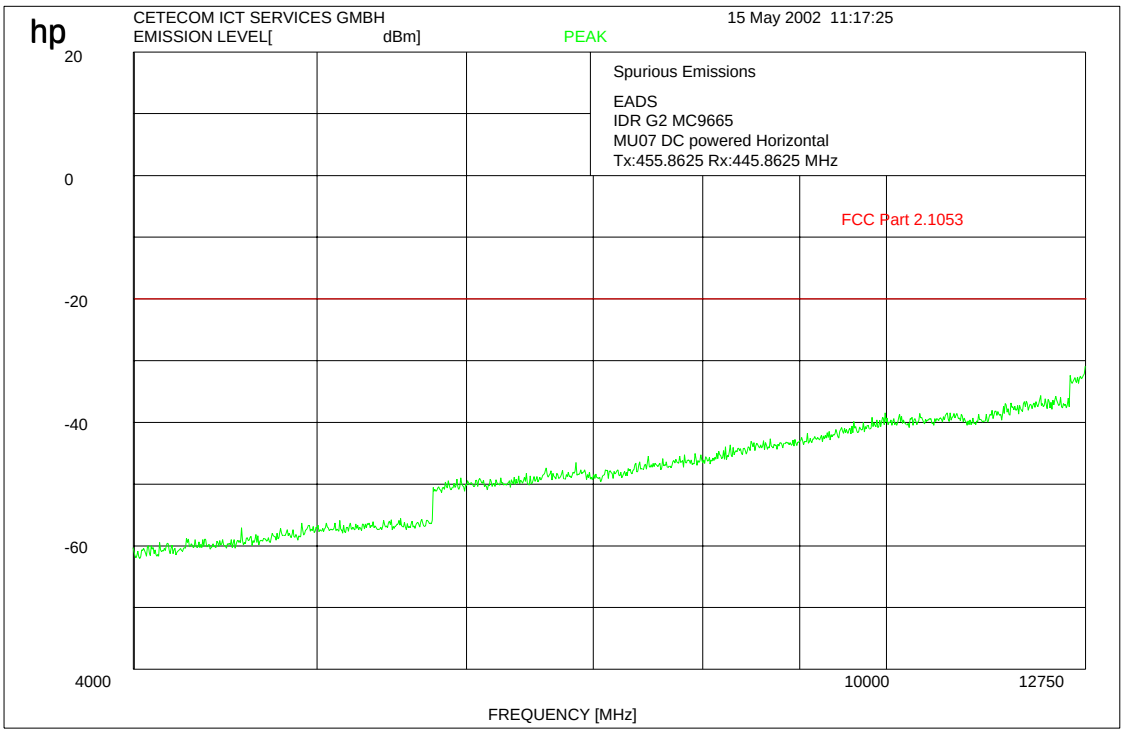
RADIATED SPURIOUS EMISSIONS
455.8625 MHz (max. power /DC)



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(for reference numbers see test equipment listing)
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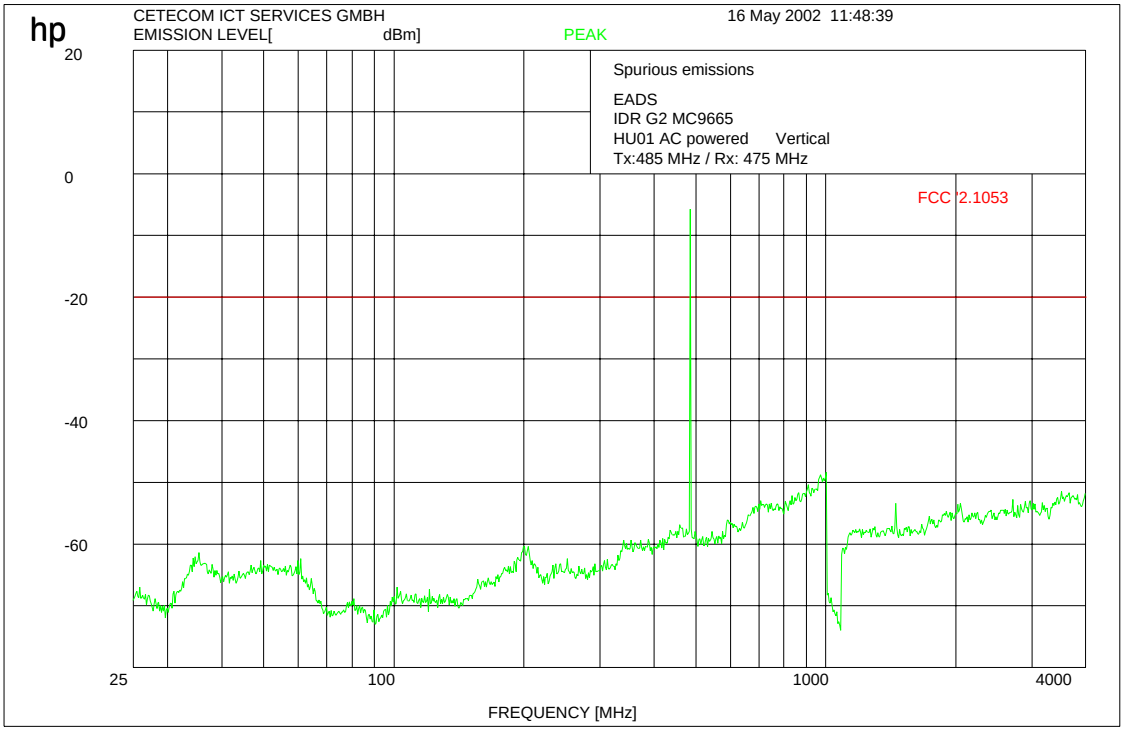
RADIATED SPURIOUS EMISSIONS
485 MHz (max. power /AC)



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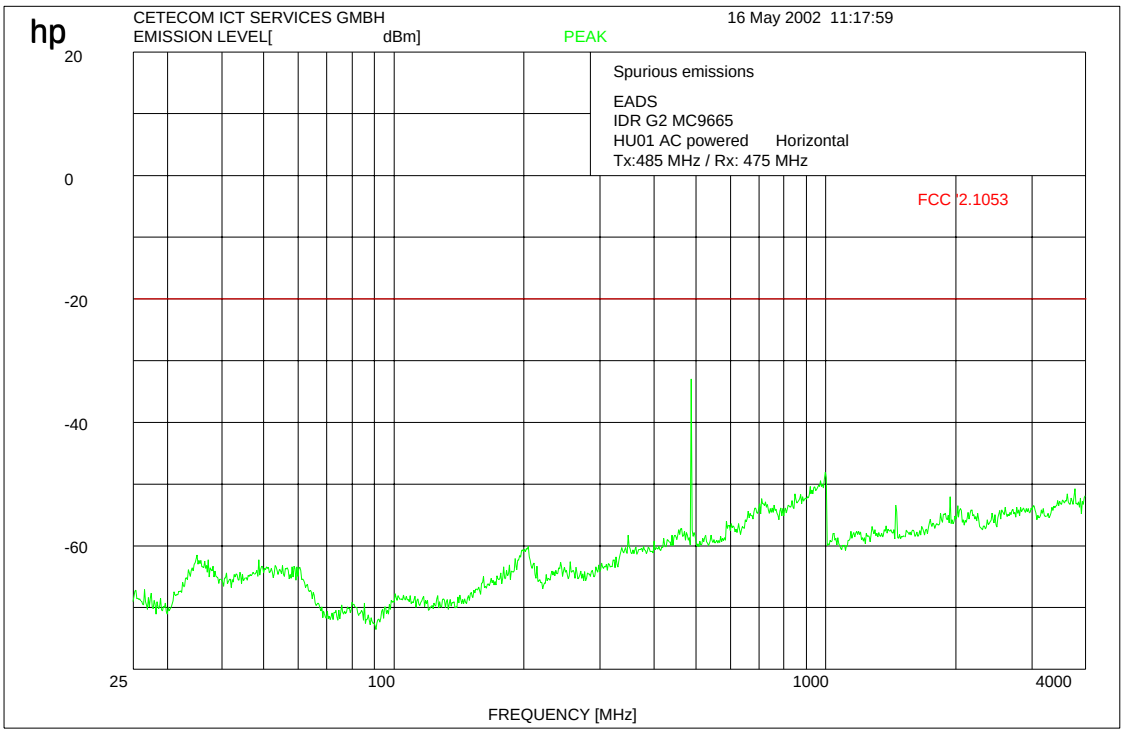
485 MHz (max. power /AC)



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RADIATED SPURIOUS EMISSIONS
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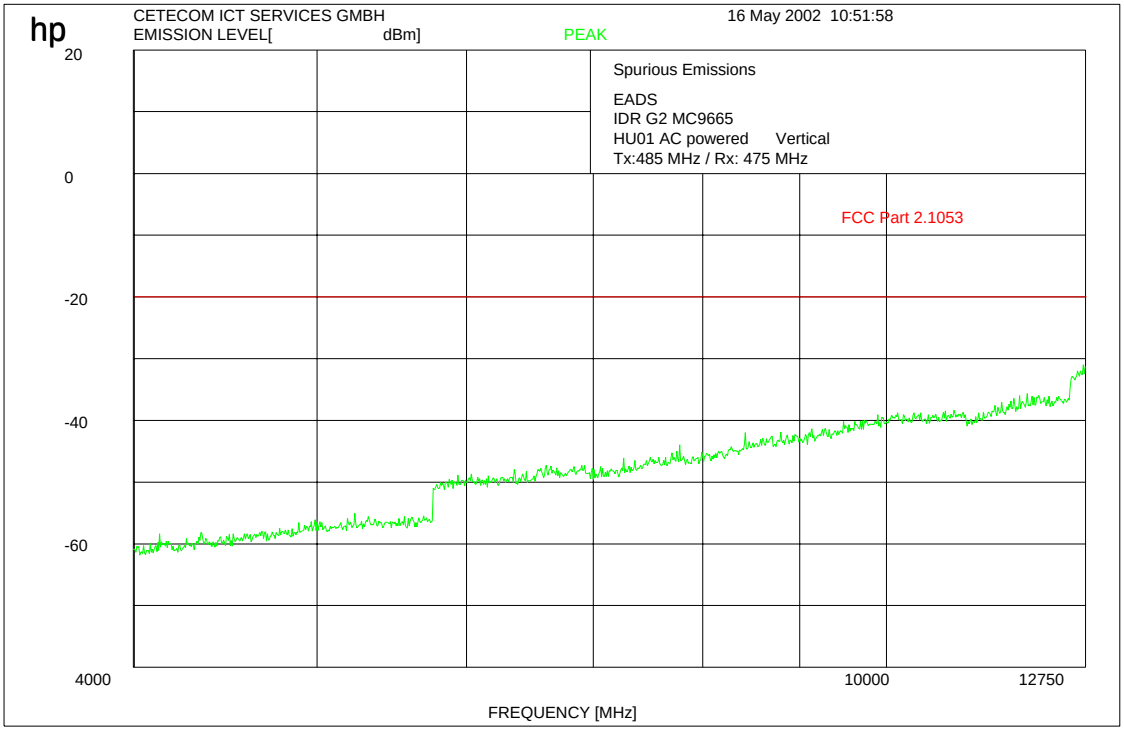

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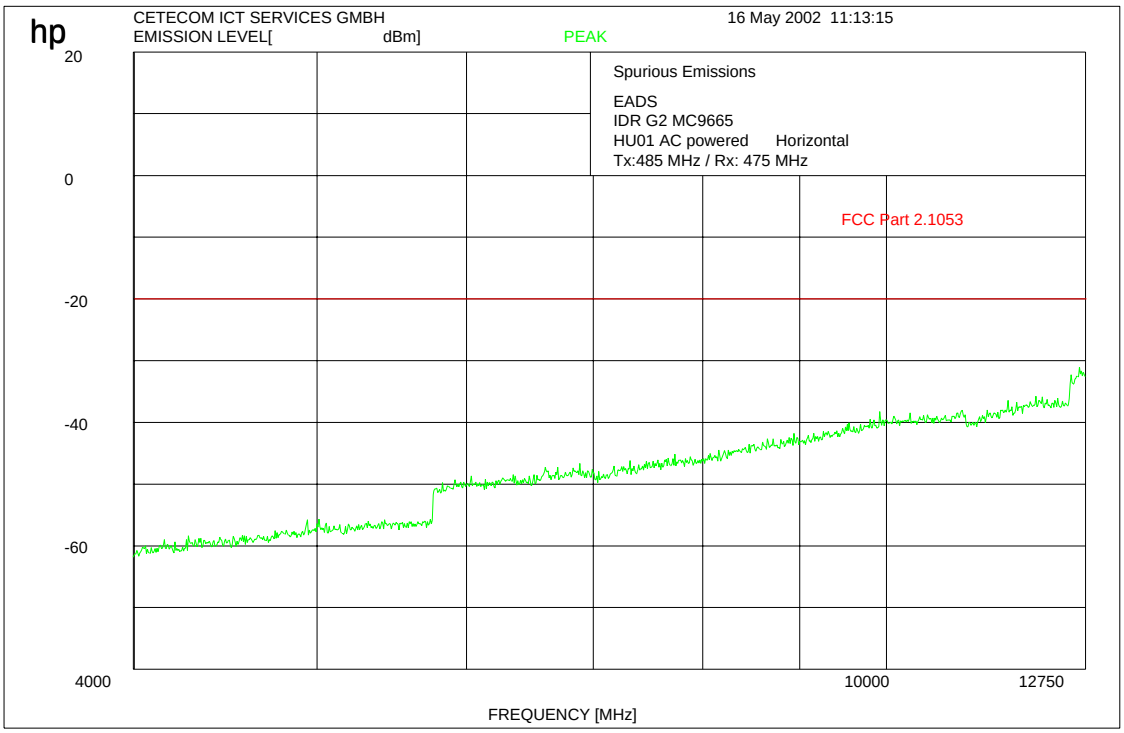
485 MHz (max. power /AC)



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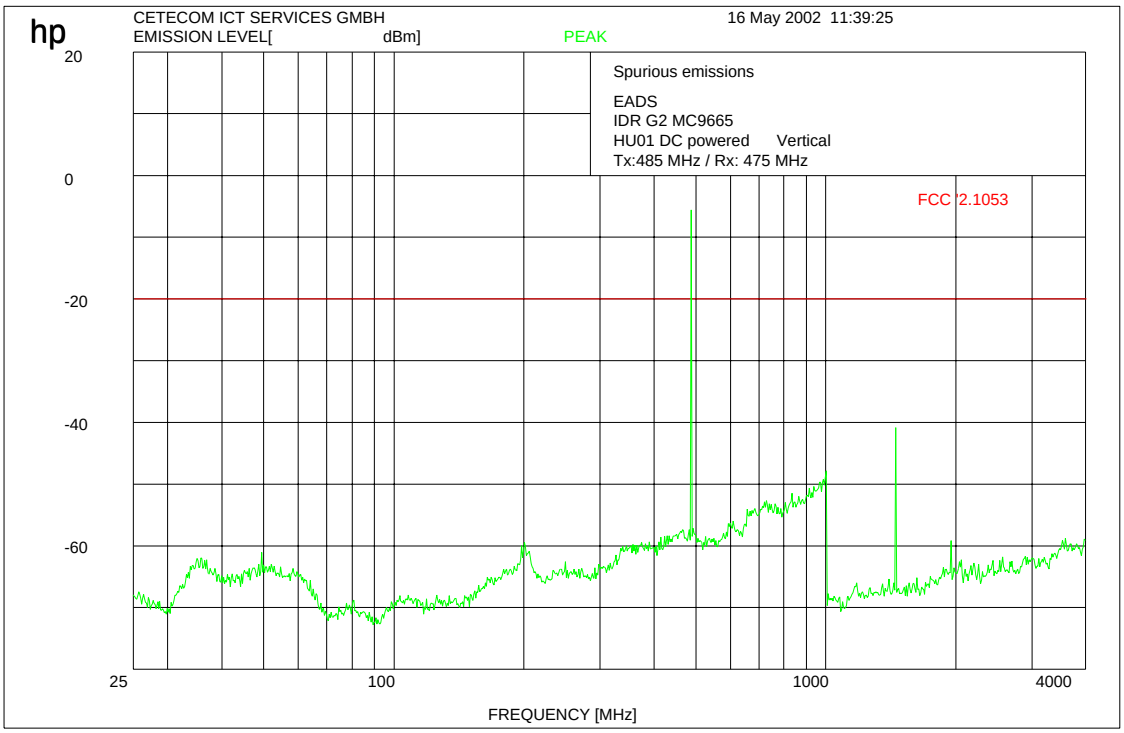
RADIATED SPURIOUS EMISSIONS
485 MHz (max. power /DC)



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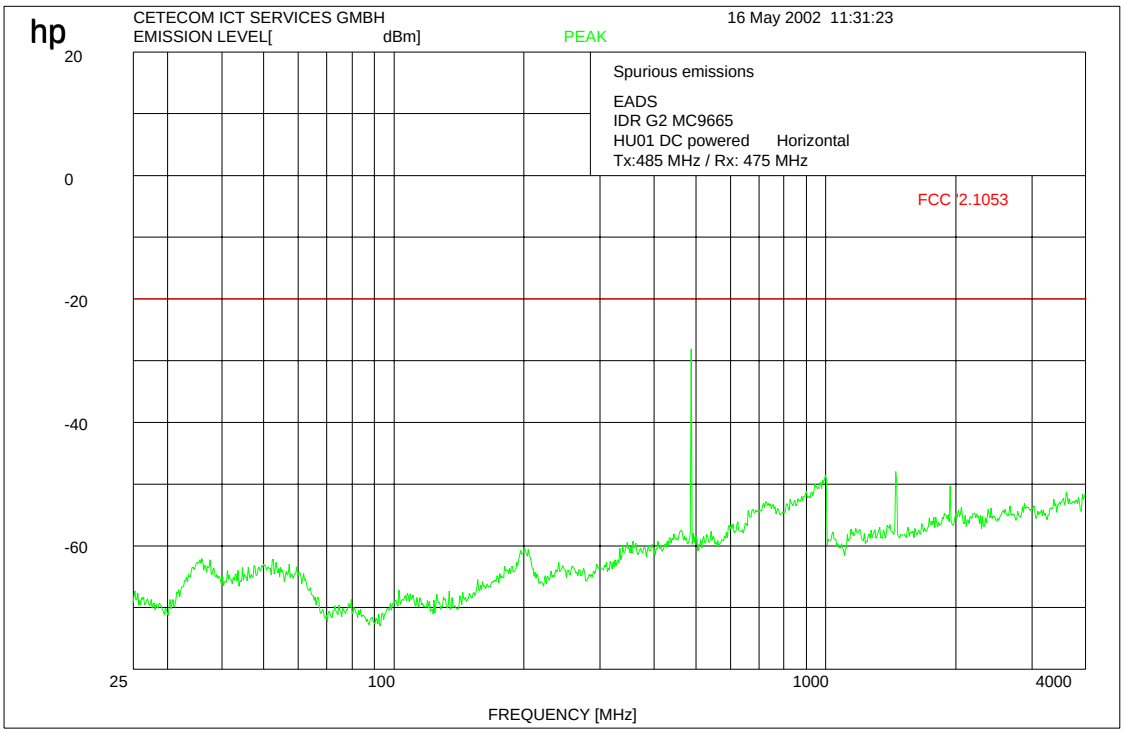
RADIATED SPURIOUS EMISSIONS
485 MHz (max. power /DC)



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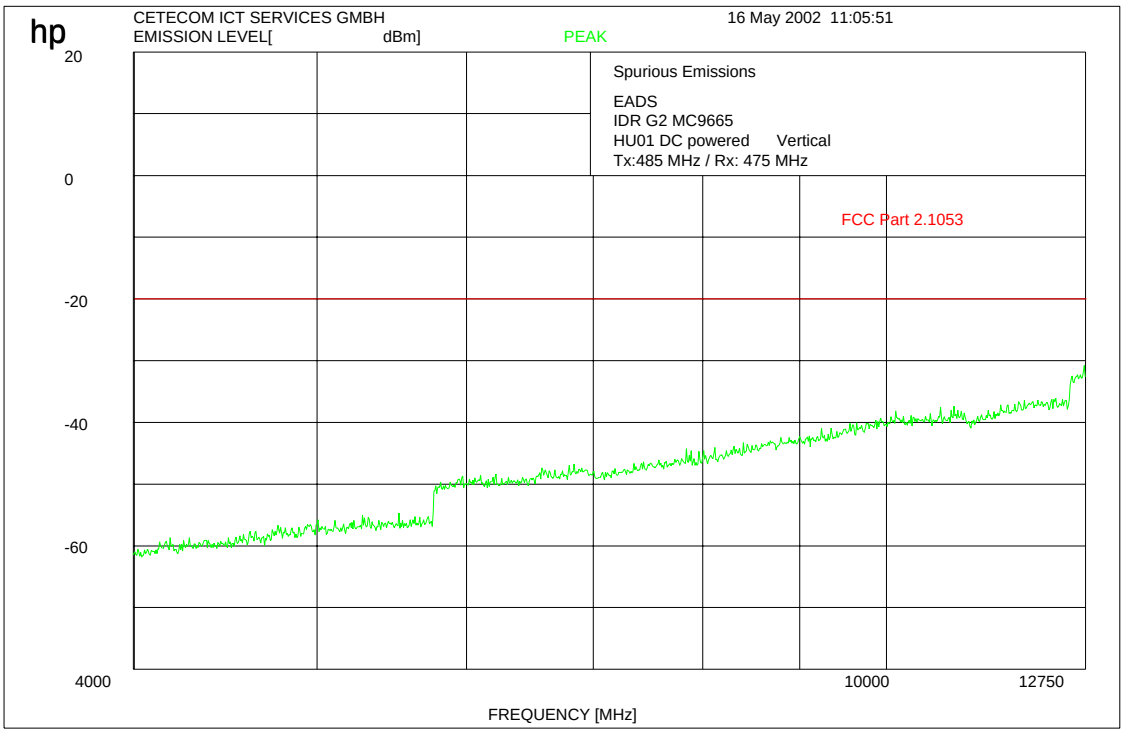
RADIATED SPURIOUS EMISSIONS
485 MHz (max. power /DC)



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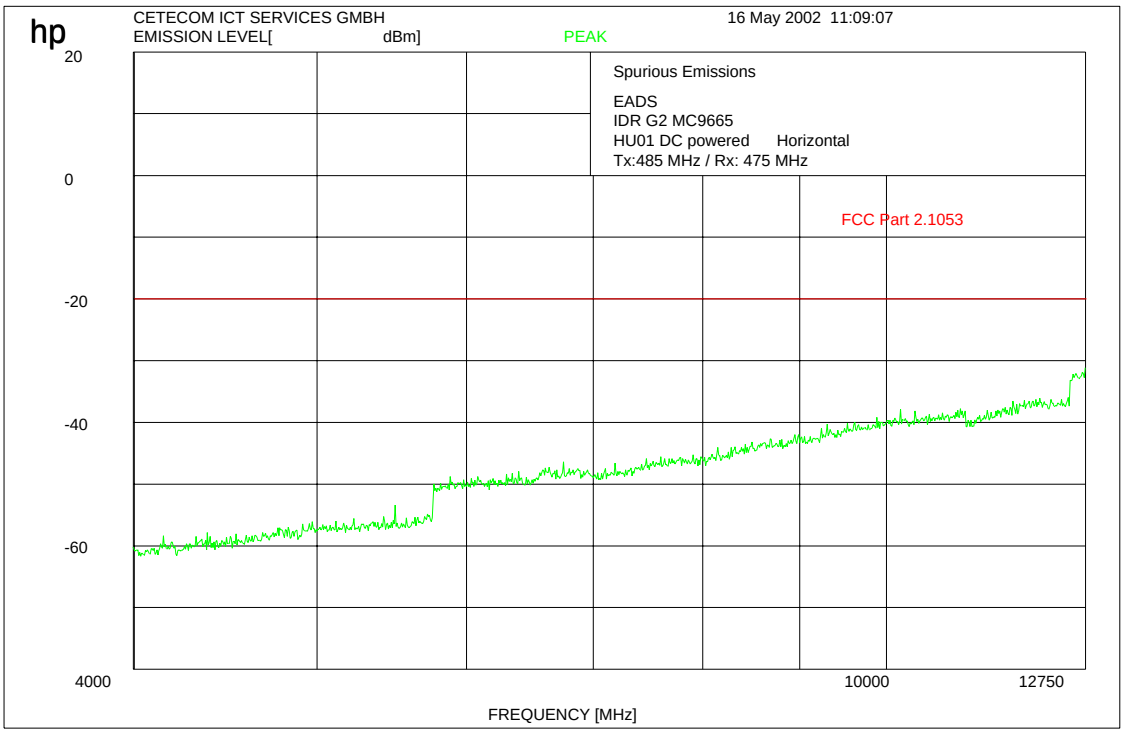
RADIATED SPURIOUS EMISSIONS
485 MHz (max. power /DC)



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17 - 24

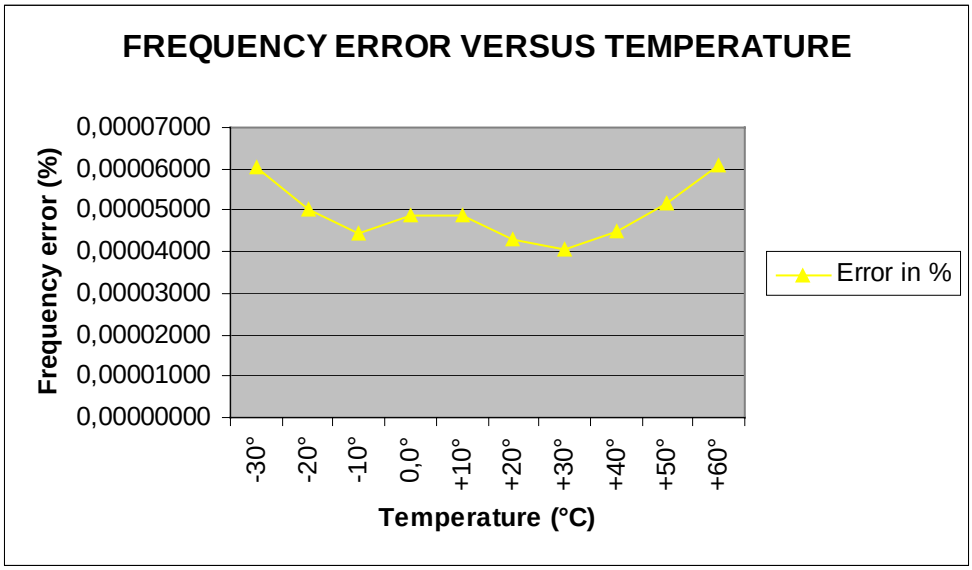
Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

FREQUENCY STABILITY Vs. TEMPERATURE § 2.995

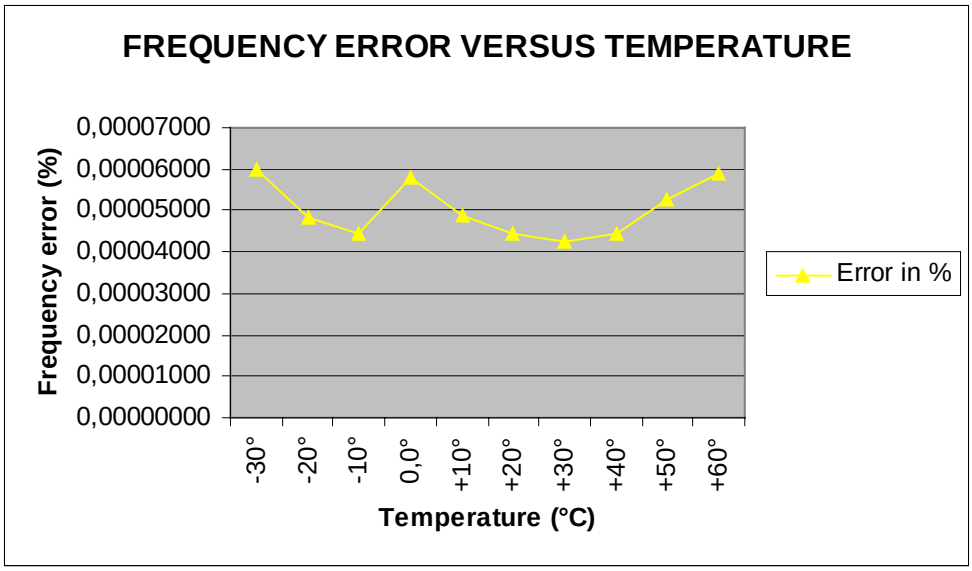
Teperature [° C]	Frequency error [Hz]	Frequency [MHz]	Error in %	Error in ppm
-30°	274	455,8625	0,00006011	0,6011
-20°	229	455,8625	0,00005023	0,5023
-10°	203	455,8625	0,00004453	0,4453
0,0°	223	455,8625	0,00004892	0,4892
+10°	223	455,8625	0,00004892	0,4892
+20°	195	455,8625	0,00004278	0,4278
+30°	185	455,8625	0,00004058	0,4058
+40°	205	455,8625	0,00004497	0,4497
+50°	235	455,8625	0,00005155	0,5155
+60°	277	455,8625	0,00006076	0,6076

Teperature [° C]	Frequency error [Hz]	Frequency [MHz]	Error in %	Error in ppm
-30°	290	485,000	0,00005979	0,5979
-20°	235	485,000	0,00004845	0,4845
-10°	216	485,000	0,00004454	0,4454
0,0°	281	485,000	0,00005794	0,5794
+10°	236	485,000	0,00004866	0,4866
+20°	215	485,000	0,00004433	0,4433
+30°	205	485,000	0,00004227	0,4227
+40°	215	485,000	0,00004433	0,4433
+50°	256	485,000	0,00005278	0,5278
+60°	285	485,000	0,00005876	0,5876

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%
FREQUENCY STABILITY Vs. TEMPERATURE § 2.995
455.8625 MHz



485 MHz



LIMITS **SUBCLAUSE § 90.213**

Temperature – Frequency Stability of 2.5ppm from –30 to +60 °C

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
68

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

FREQUENCY STABILITY Vs. VOLTAGE § 2.991

455.8625 MHz DC powered

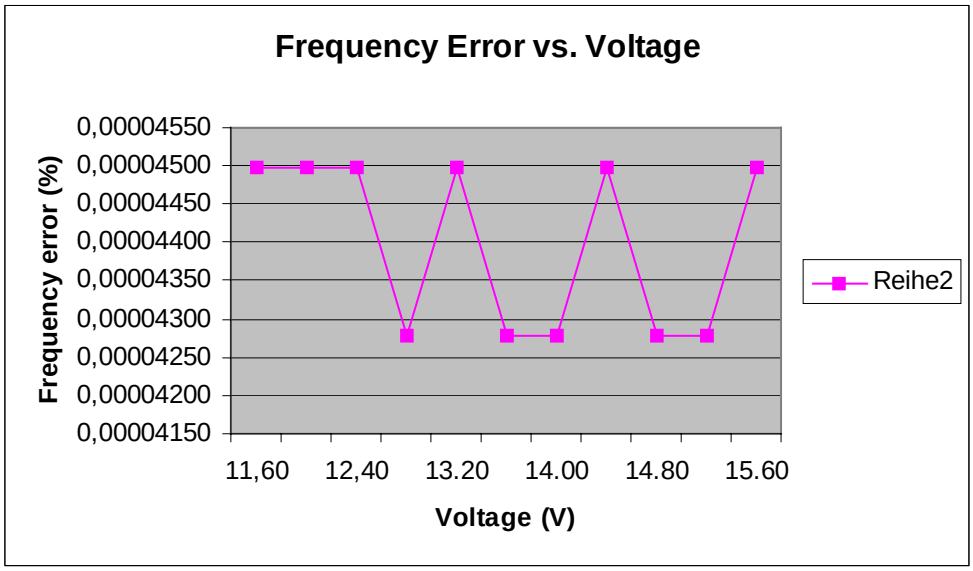
Voltage [V]	Frequency error [Hz]	Frequency [MHz]	Error in %	Error in ppm
11.60	**205**	**455,8625**	**0,00004497**	**0,4497**
12.00	**205**	**455,8625**	**0,00004497**	**0,4497**
12.40	**205**	**455,8625**	**0,00004497**	**0,4497**
12.80	**195**	**455,8625**	**0,00004278**	**0,4278**
13.20	**205**	**455,8625**	**0,00004497**	**0,4497**
13.60	**195**	**455,8625**	**0,00004278**	**0,4278**
14.00	**195**	**455,8625**	**0,00004278**	**0,4278**
14.40	**205**	**455,8625**	**0,00004497**	**0,4497**
14.80	**195**	**455,8625**	**0,00004278**	**0,4278**
15.20	**195**	**455,8625**	**0,00004278**	**0,4278**
15.60	**205**	**455,8625**	**0,00004497**	**0,4497**

485 MHz DC powered

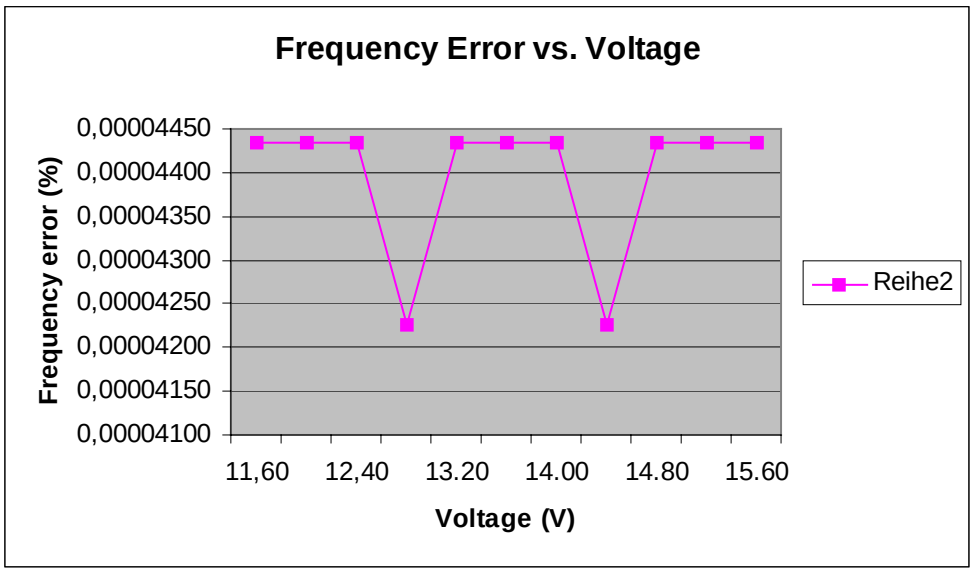
Voltage [V]	Frequency error [Hz]	Frequency [MHz]	Error in %	Error in ppm
11.60	**215**	**485**	**0,00004433**	**0,4433**
12.00	**215**	**485**	**0,00004433**	**0,4433**
12.40	**215**	**485**	**0,00004433**	**0,4433**
12.80	**205**	**485**	**0,00004227**	**0,4227**
13.20	**215**	**485**	**0,00004433**	**0,4433**
13.60	**215**	**485**	**0,00004433**	**0,4433**
14.00	**215**	**485**	**0,00004433**	**0,4433**
14.40	**205**	**485**	**0,00004227**	**0,4227**
14.80	**215**	**485**	**0,00004433**	**0,4433**
15.20	**215**	**485**	**0,00004433**	**0,4433**
15.60	**215**	**485**	**0,00004433**	**0,4433**

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

455.8625 MHz DC powered



485 MHz DC powered



LIMITS **SUBCLAUSE § 90.213**

Power Supply Voltage – Frequency Stability of 2.5ppm from 11.60V to 15.60V of nominal voltage at the DC Input ports

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
64

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

455.8625 MHz AC powered

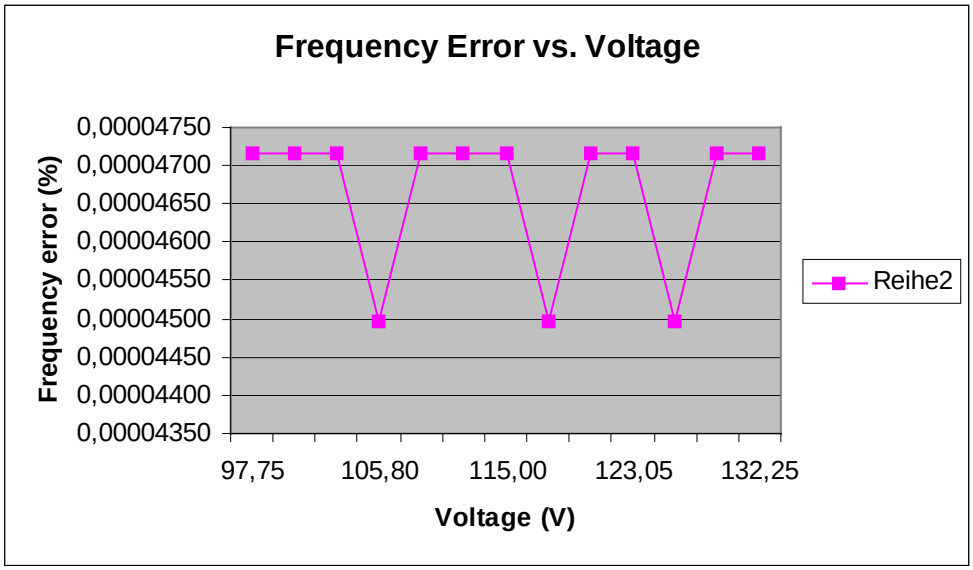
Voltage [V]	Frequency error [Hz]	Frequency [MHz]	Error in %	Error in ppm
97,75	215	455,8625	0,00004716	0,4716
100,05	215	455,8625	0,00004716	0,4716
103,50	215	455,8625	0,00004716	0,4716
105,80	205	455,8625	0,00004497	0,4497
109,25	215	455,8625	0,00004716	0,4716
111,55	215	455,8625	0,00004716	0,4716
115,00	215	455,8625	0,00004716	0,4716
117,30	205	455,8625	0,00004497	0,4497
120,75	215	455,8625	0,00004716	0,4716
123,05	215	455,8625	0,00004716	0,4716
126,50	205	455,8625	0,00004497	0,4497
128,80	215	455,8625	0,00004716	0,4716
132,25	215	455,8625	0,00004716	0,4716

485 MHz AC powered

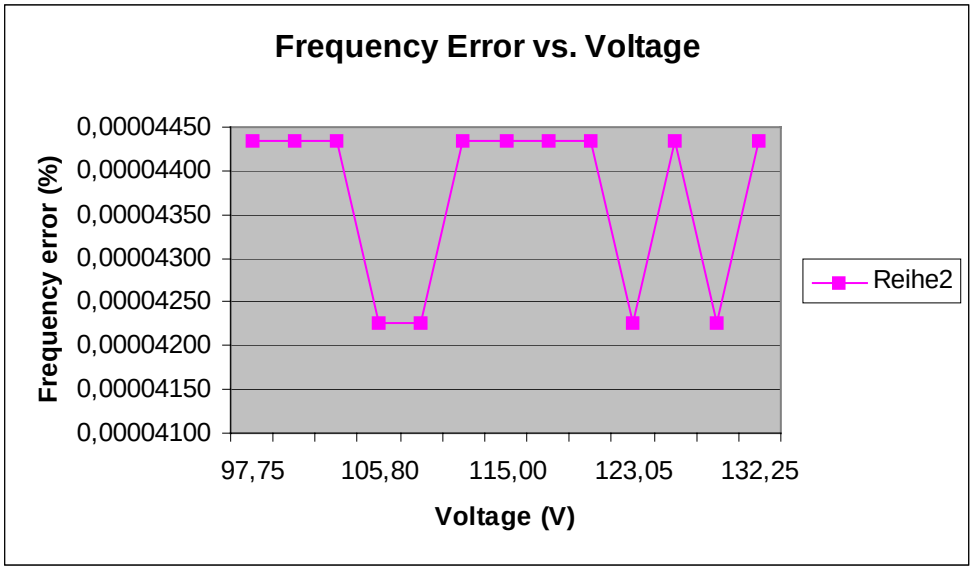
Voltage [V]	Frequency error [Hz]	Frequency [MHz]	Error in %	Error in ppm
97,75	215	485	0,00004433	0,4433
100,05	215	485	0,00004433	0,4433
103,50	215	485	0,00004433	0,4433
105,80	205	485	0,00004227	0,4227
109,25	205	485	0,00004227	0,4227
111,55	215	485	0,00004433	0,4433
115,00	215	485	0,00004433	0,4433
117,30	215	485	0,00004433	0,4433
120,75	215	485	0,00004433	0,4433
123,05	205	485	0,00004227	0,4227
126,50	215	485	0,00004433	0,4433
128,80	205	485	0,00004227	0,4227
132,25	215	485	0,00004433	0,4433

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

455.8625 MHz AC powered



485 MHz AC powered



LIMITS **SUBCLAUSE § 90.213**

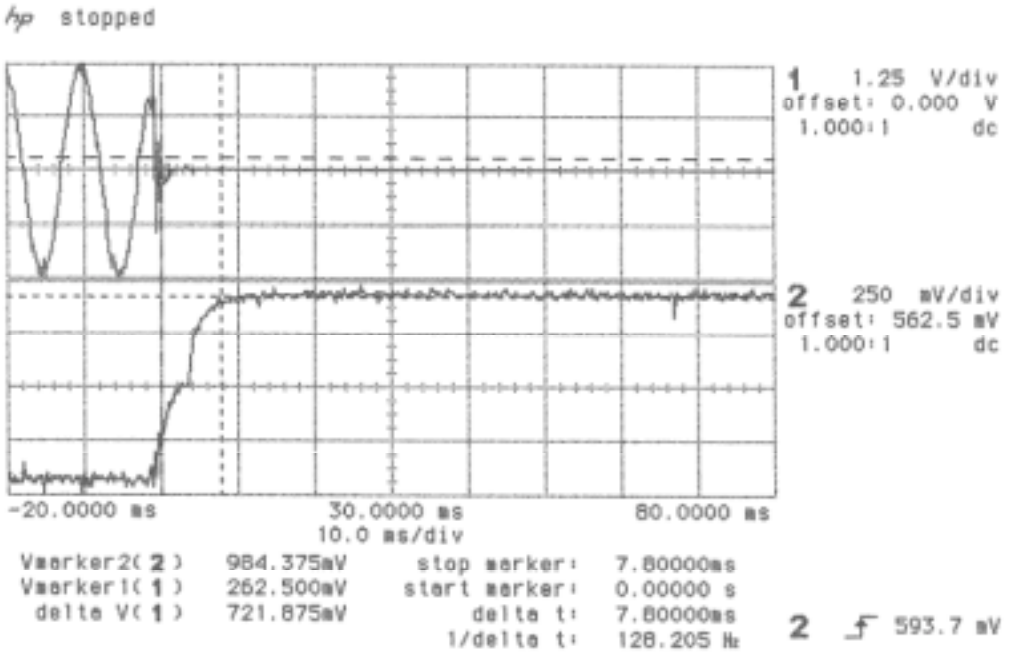
Power Supply Voltage – Frequency Stability of 2.5ppm from 85% to 115% of nominal voltage at the AC Input ports

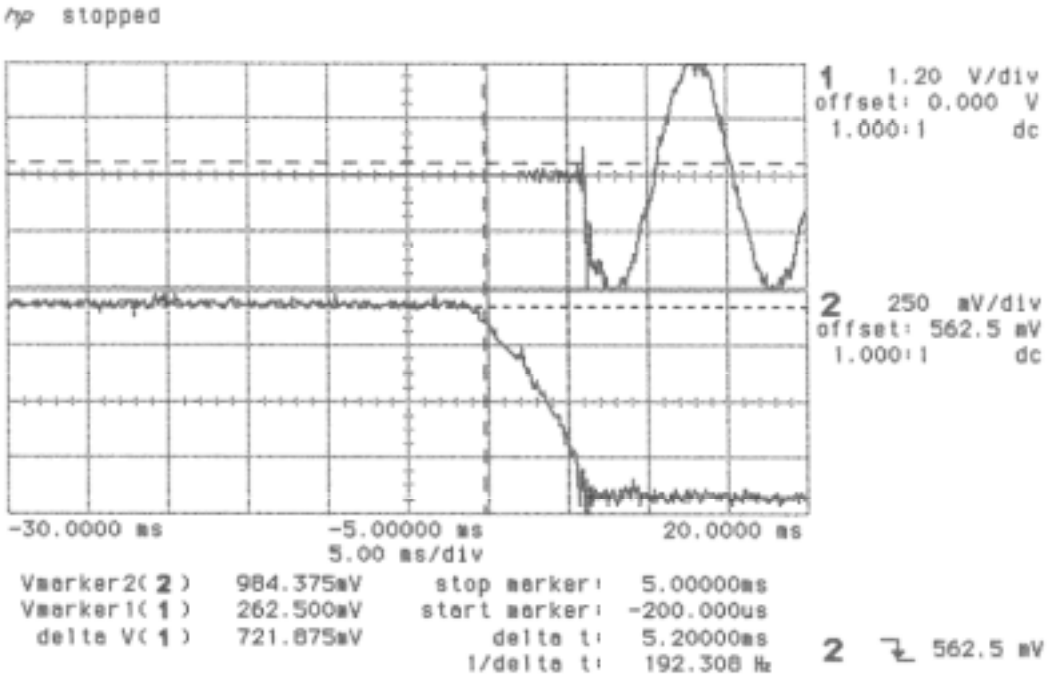
REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
64

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

TRANSIENT FREQUENCY BEHAVIOR §90.214

455.8625 MHz

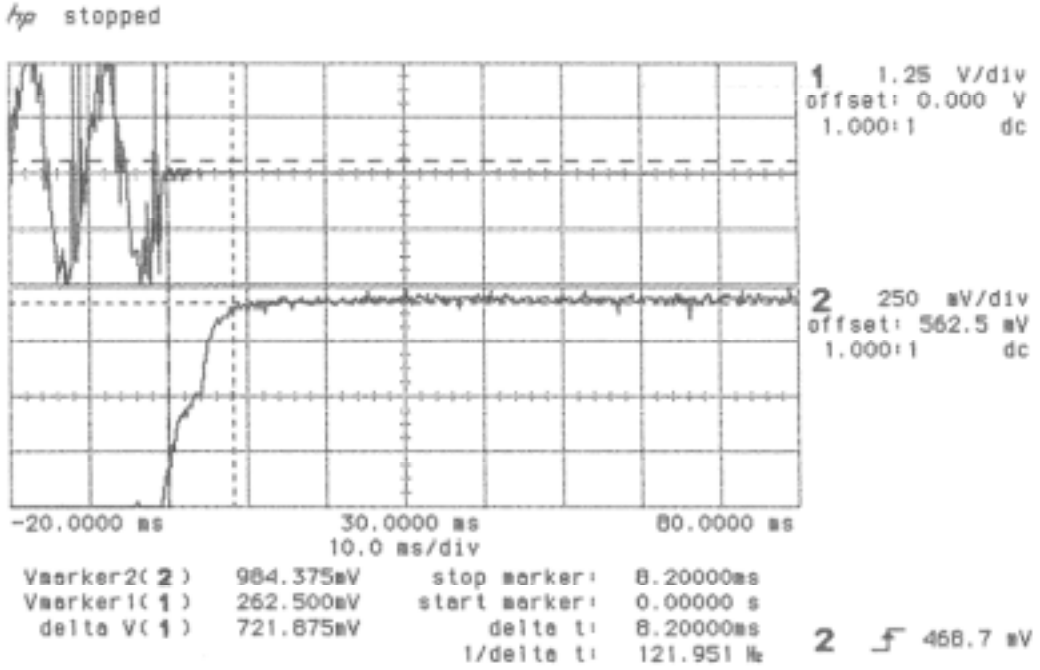


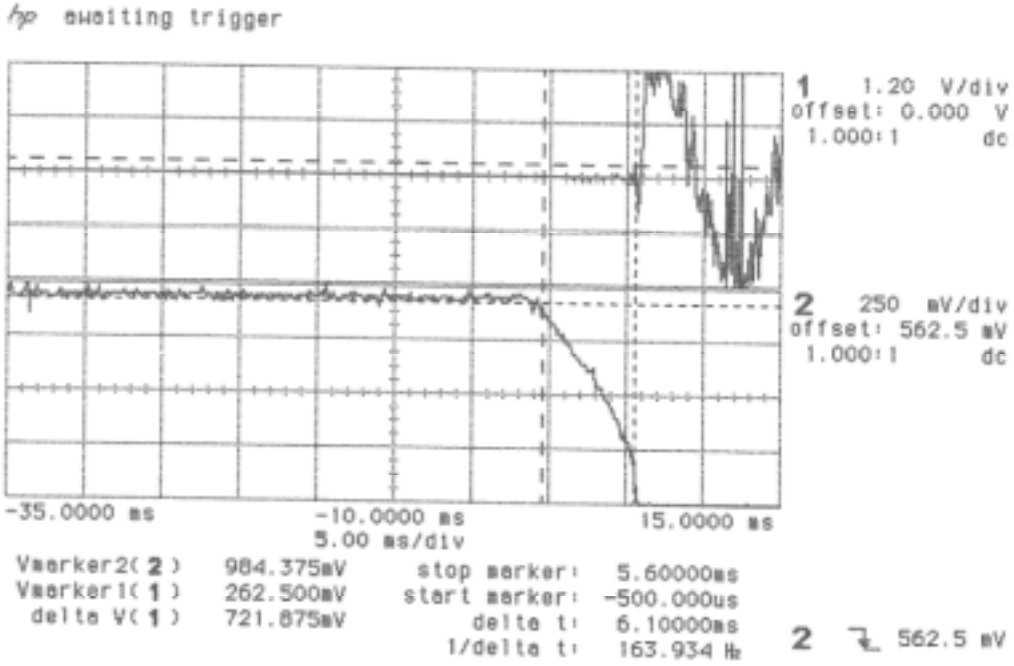


REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
07, 64 , 66 -68

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

TRANSIENT FREQUENCY BEHAVIOR §90.214
485 MHz





REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
07, 64 , 66 -68

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

Results

Transient Frequency Behavior for Equipment Designed to Operate on 12.5 kHz Channels		
	455.8625 MHz	485.000 MHz
t_1	7.8 ms	8.2 ms
t_2	<1ms	<1ms
t_3	5.2 ms	6.1 ms

This measurements are done in accordance with TEST SET-UP PROCEDURES used for Submitted Data.(2.2.19 of the TIA/EIA 603, specifically the triggering level was set in a different manner, as described in the TEST SET-UP PROCEDURES used for Submitted Data).

LIMITS SUBCLAUSE § 90.214

Transient Frequency Behavior for Equipment Designed to Operate on 12.5 kHz Channels			
	Maximum frequency difference	150 to 174 MHz	421 to 512 MHz
t_1	±12.5 kHz	5.0 ms	10.0 ms
t_2	±6.25 kHz	20.0 ms	25.0 ms
t_3	±12.5 kHz	5.0 ms	10.0ms

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
07, 64 , 66 -68

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.111
conducted

SPURIOUS EMISSIONS LEVEL (µV/m)								
445.8625 MHz			475 MHz					
f (MHz)	Detector	Level (dBm)	f (MHz)	Detector	Level (dBm)	f (MHz)	Detector	Level (µV/m)
3016.4	Peak	-73.08	2511.03	Peak	-78.15			
4639.3	Peak	-72.77						
Measurement uncertainty			±3 dB					

f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

The test setups for transmitter spurious radiated measurements are according ANSI C63.4 Clause 11

Limits SUBCLAUSE § 15.111

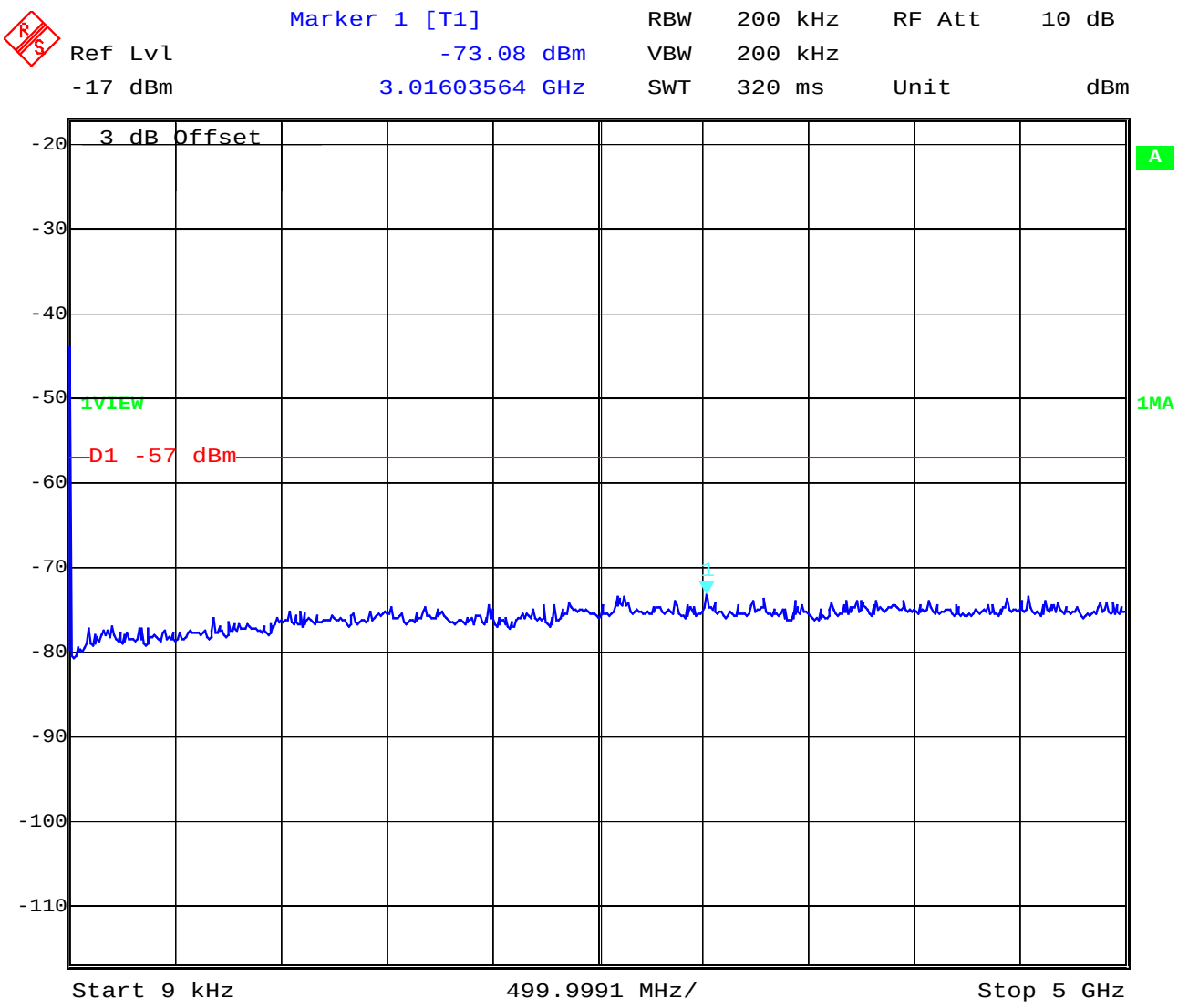
Frequency (MHz)	Max. allowed Level
9 kHz –40 GHz	-57.0 dBm

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
64

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS EMISSIONS (conducted) § 15.111

445.8625 MHz (AC powered)



Date: 15.MAY.2002 12:55:26

f < 1 GHz : RBW/VBW: 100 kHz **f ≥ 1GHz : RBW/VBW: 1 MHz**

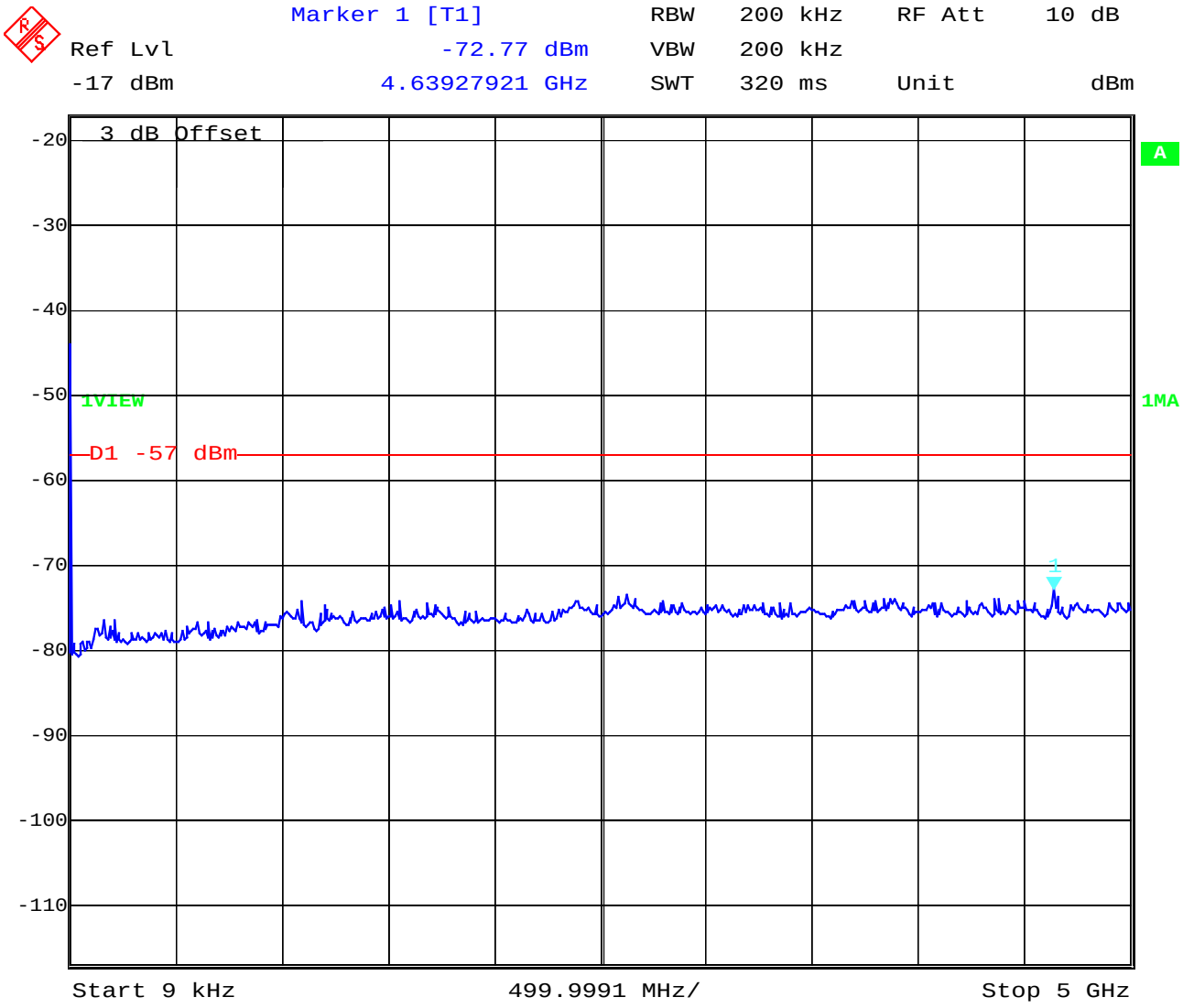
Limits **SUBCLAUSE § 15.111**

Frequency (MHz)	Max. allowed Level
9 kHz –40 GHz	-57.0 dBm

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
64

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS EMISSIONS (conducted) § 15.111
445.8625 MHz (DC powered)



Date: 15.MAY.2002 12:57:40
f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Limits SUBCLAUSE § 15.111

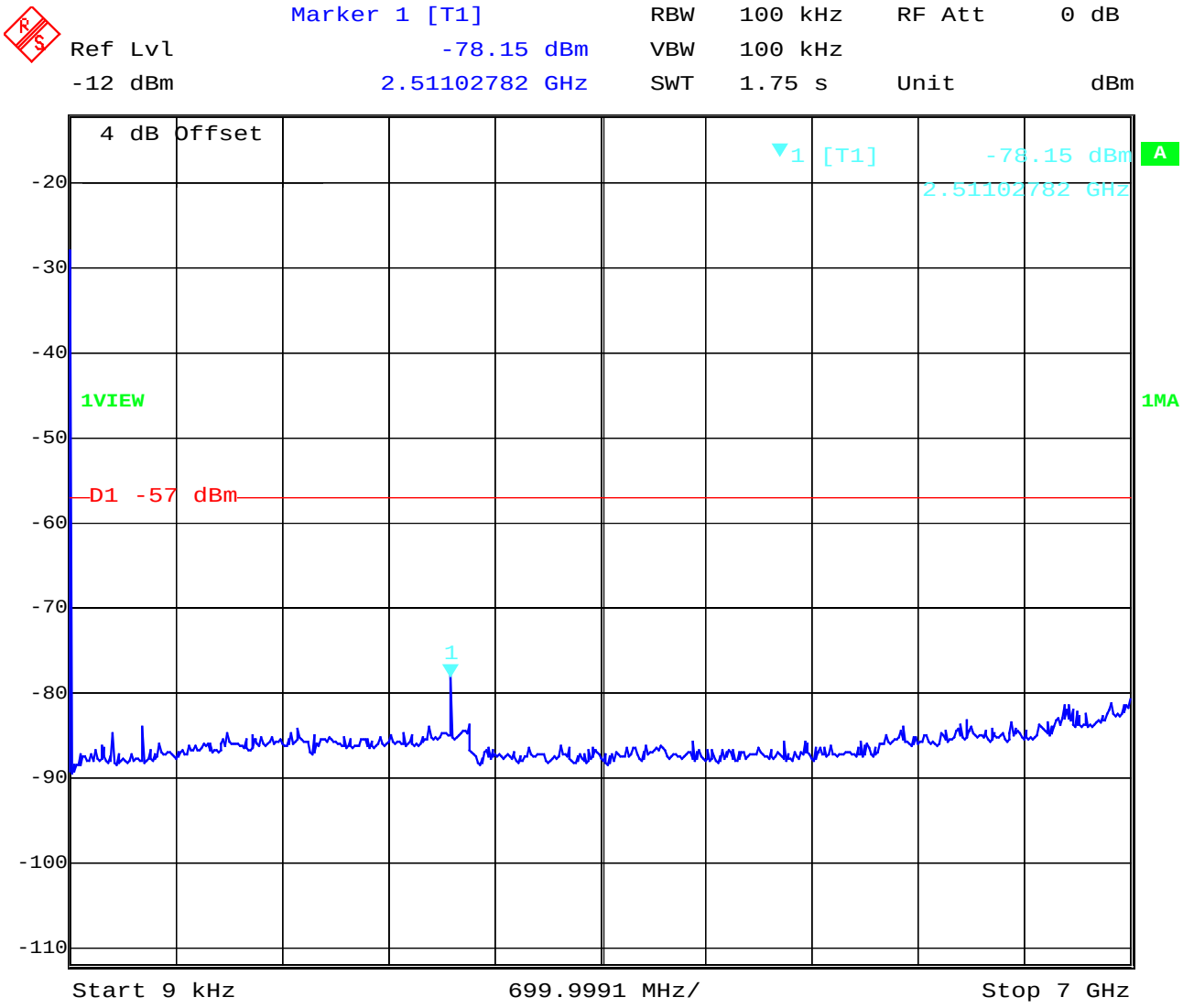
Frequency (MHz)	Max. allowed Level
9 kHz –40 GHz	-57.0 dBm

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
64

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS EMISSIONS (conducted) § 15.111

475 MHz (AC powered)



Date: 16.MAY.2002 09:08:26

f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Limits SUBCLAUSE § 15.111

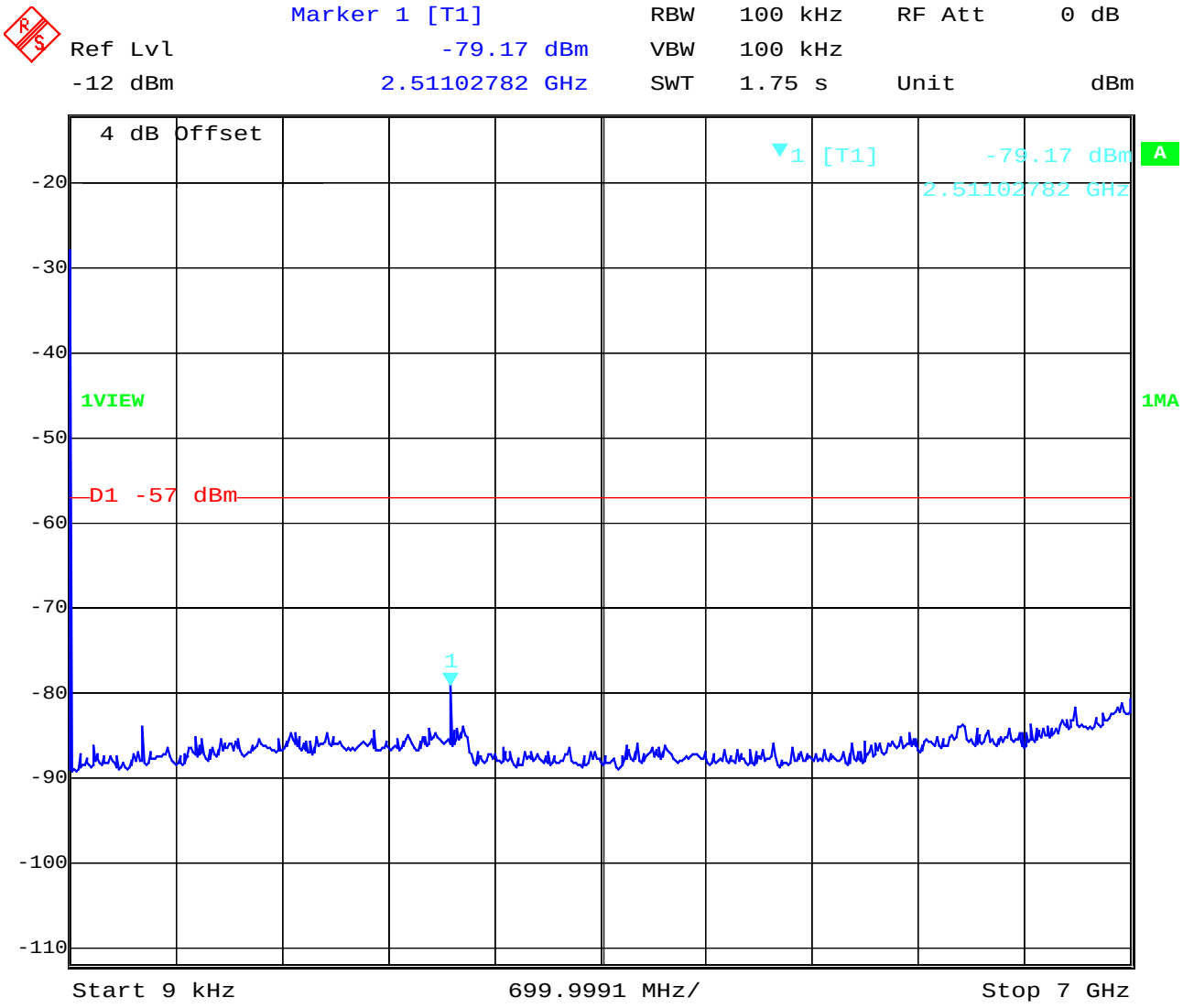
Frequency (MHz)	Max. allowed Level
9 kHz –40 GHz	-57.0 dBm

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
64

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS EMISSIONS (conducted) § 15.111

475 MHz (DC powered)



Date: 16.MAY.2002 09:09:49

f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Limits SUBCLAUSE § 15.111

Frequency (MHz)	Max. allowed Level
9 kHz –40 GHz	-57.0 dBm

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
64

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.209
radiated

SPURIOUS EMISSIONS LEVEL (µV/m)								
445.8625 MHz			475 MHz					
f (MHz)	Detector Polarisation	Level (µV/m)	f (MHz)	Detector Polarisation	Level (µV/m)	f (MHz)	Detector	Level (µV/m)
488.93	H / QP	38.6	479.47	H / QP	34.2			
Measurement uncertainty			±3 dB					

f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

The test setups for transmitter spurious radiated measurements are according ANSI C63.4 Clause 11

Measurement distance see table

Limits SUBCLAUSE § 15.209

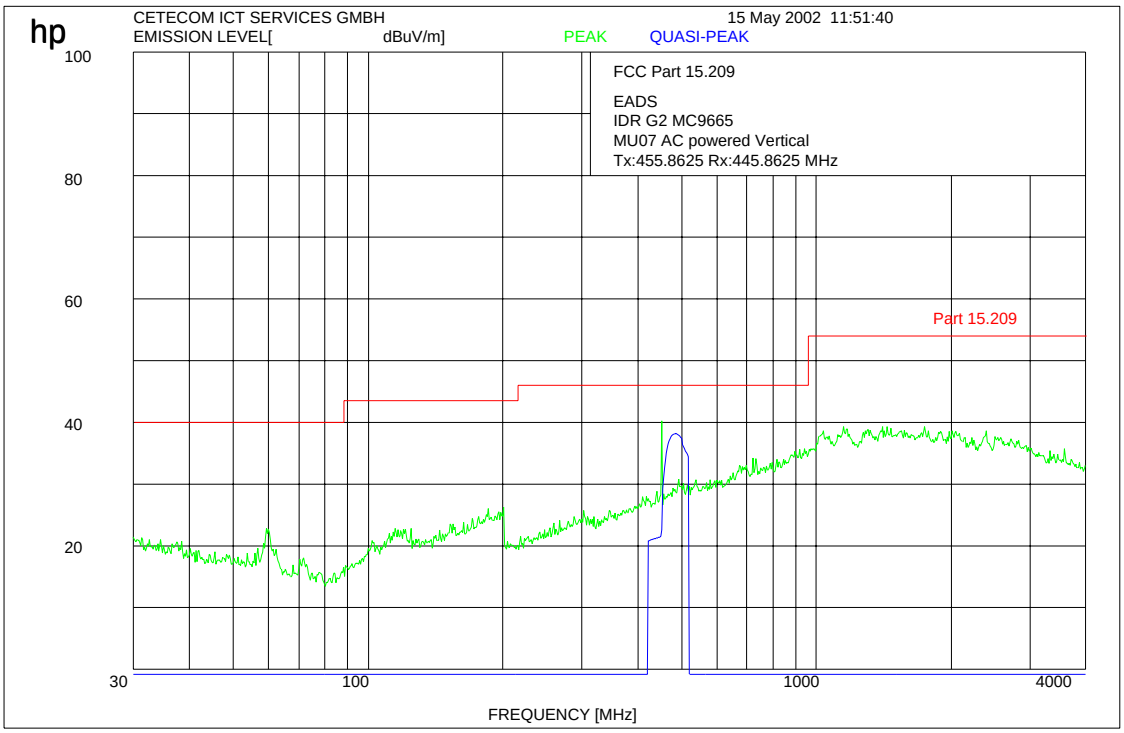
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17 - 24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.209

445.8625 MHz (AC powered)



f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Limits SUBCLAUSE § 15.209

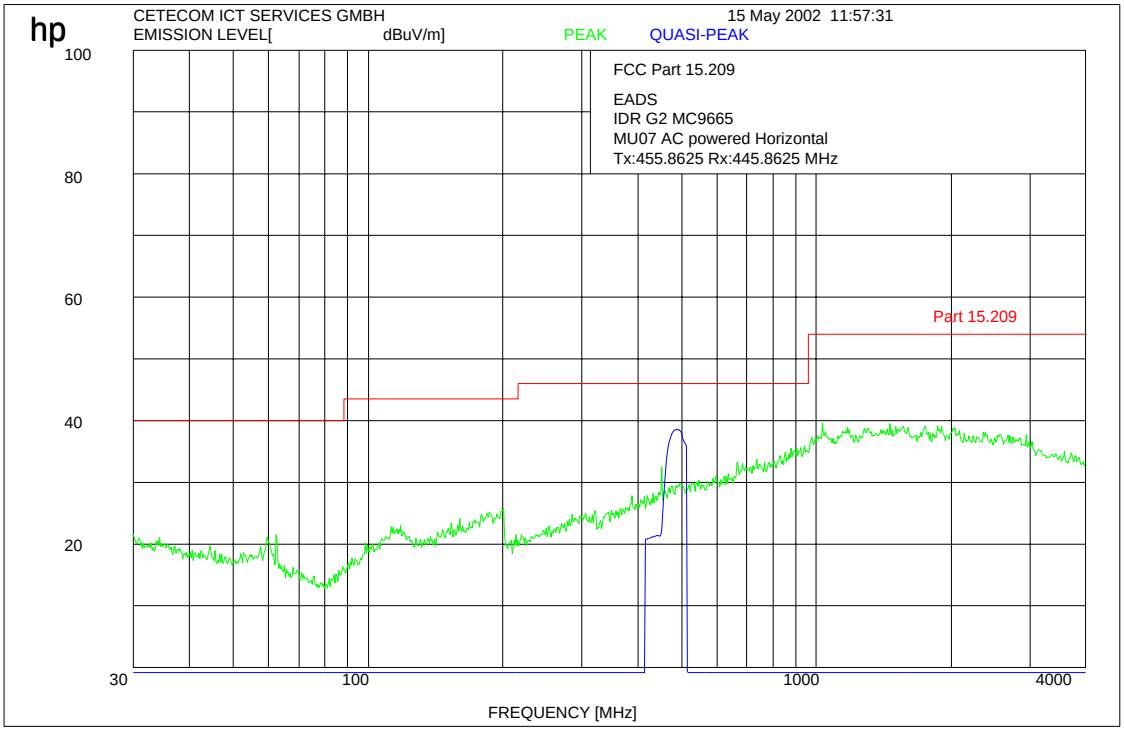
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17-24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.209

445.8625 MHz (AC powered)



f < 1 GHz : RBW/VBW: 100 kHz **f ≥ 1GHz : RBW/VBW: 1 MHz**

Limits **SUBCLAUSE § 15.209**

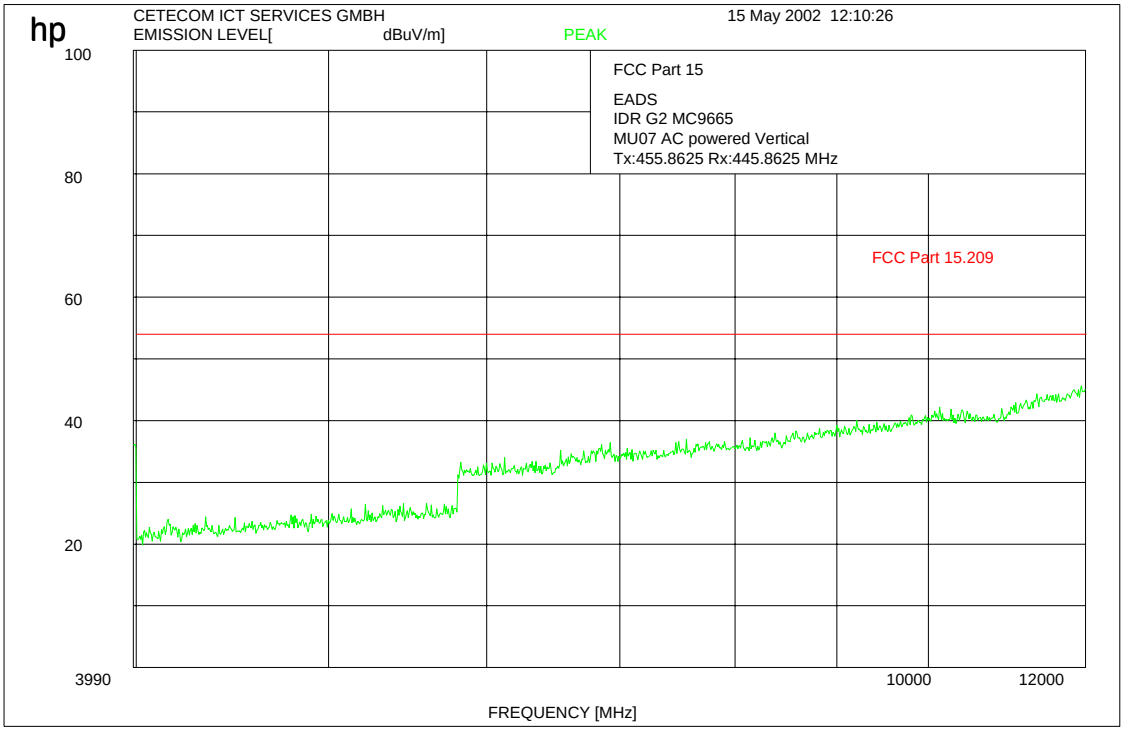
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17-24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.209

445.8625 MHz (AC powered)



f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Limits SUBCLAUSE § 15.209

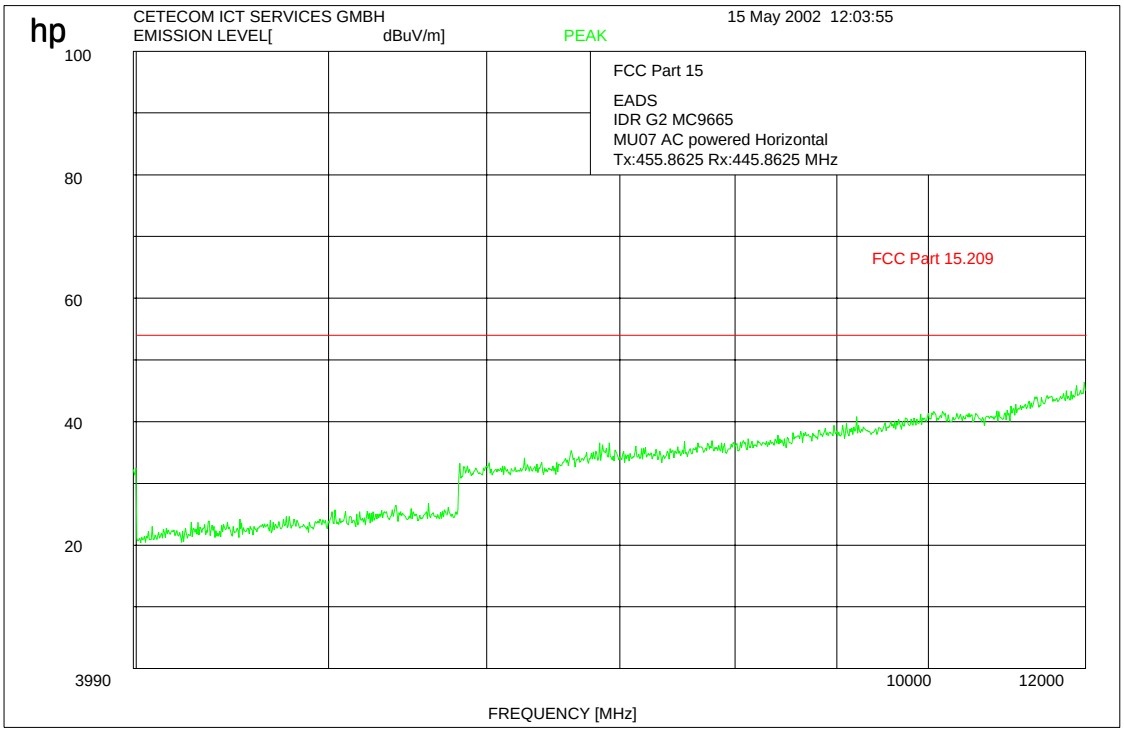
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17-24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.209

445.8625 MHz (AC powered)



f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Limits SUBCLAUSE § 15.209

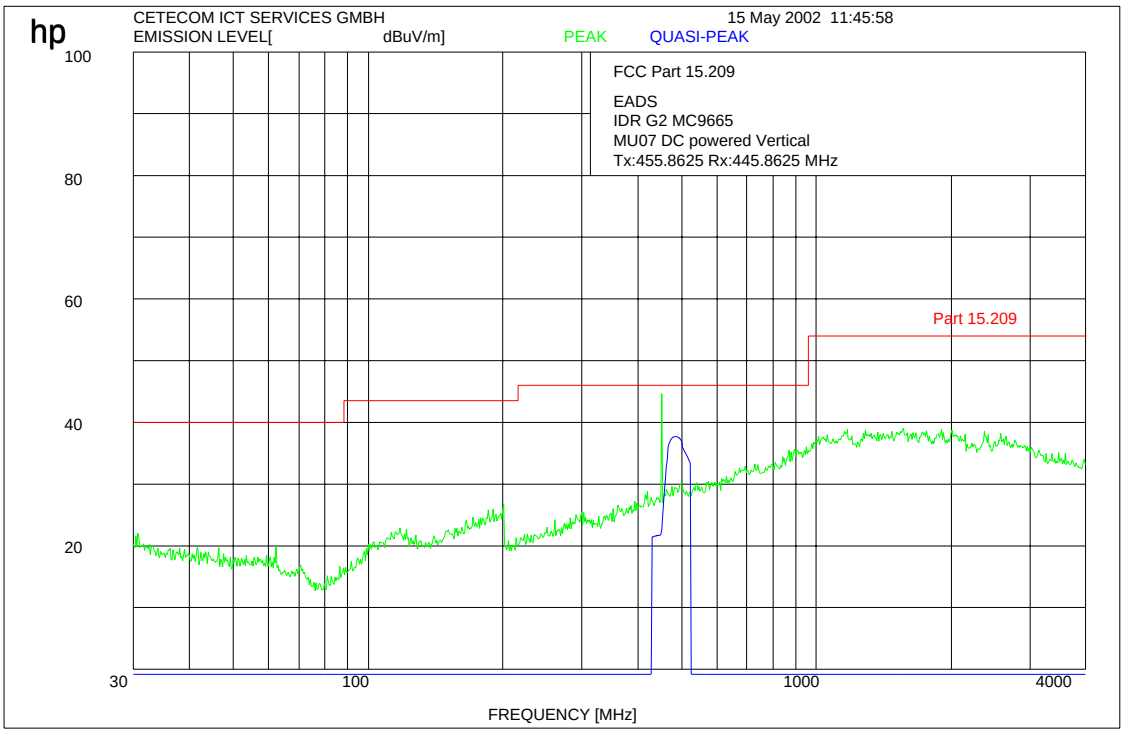
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17-24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.209

445.8625 MHz (DC powered)



f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Limits SUBCLAUSE § 15.209

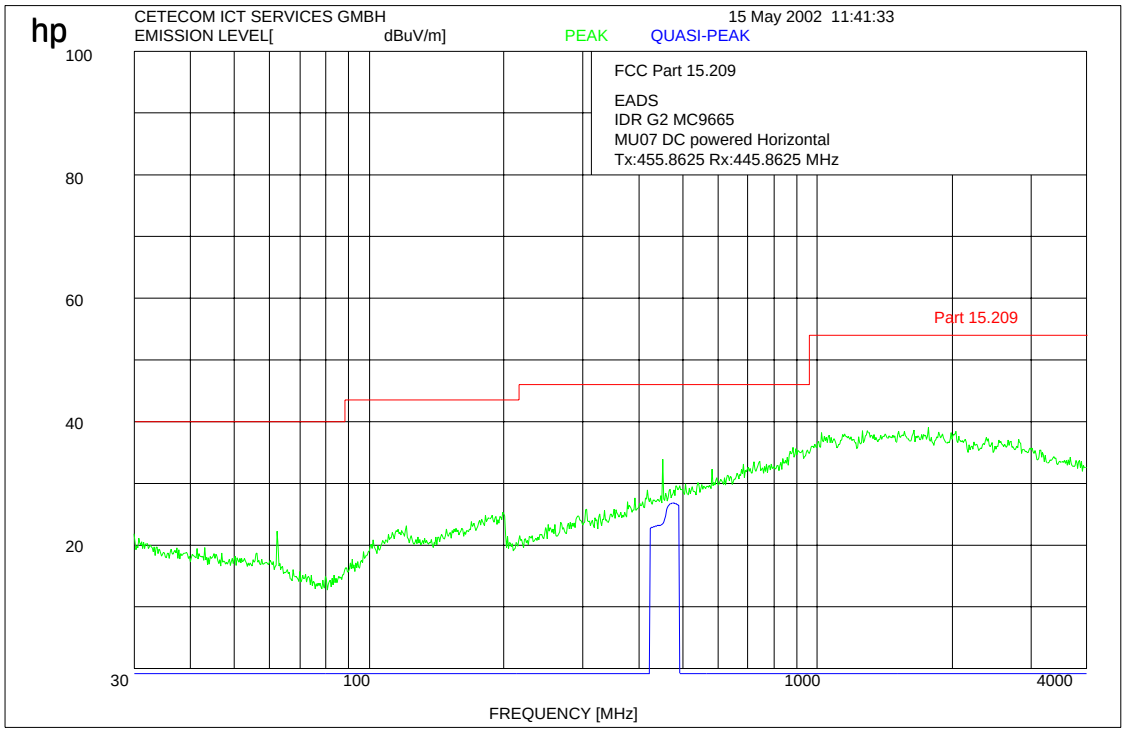
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17-24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.209

445.8625 MHz (DC powered)



f < 1 GHz : RBW/VBW: 100 kHz **f ≥ 1GHz : RBW/VBW: 1 MHz**

Limits **SUBCLAUSE § 15.209**

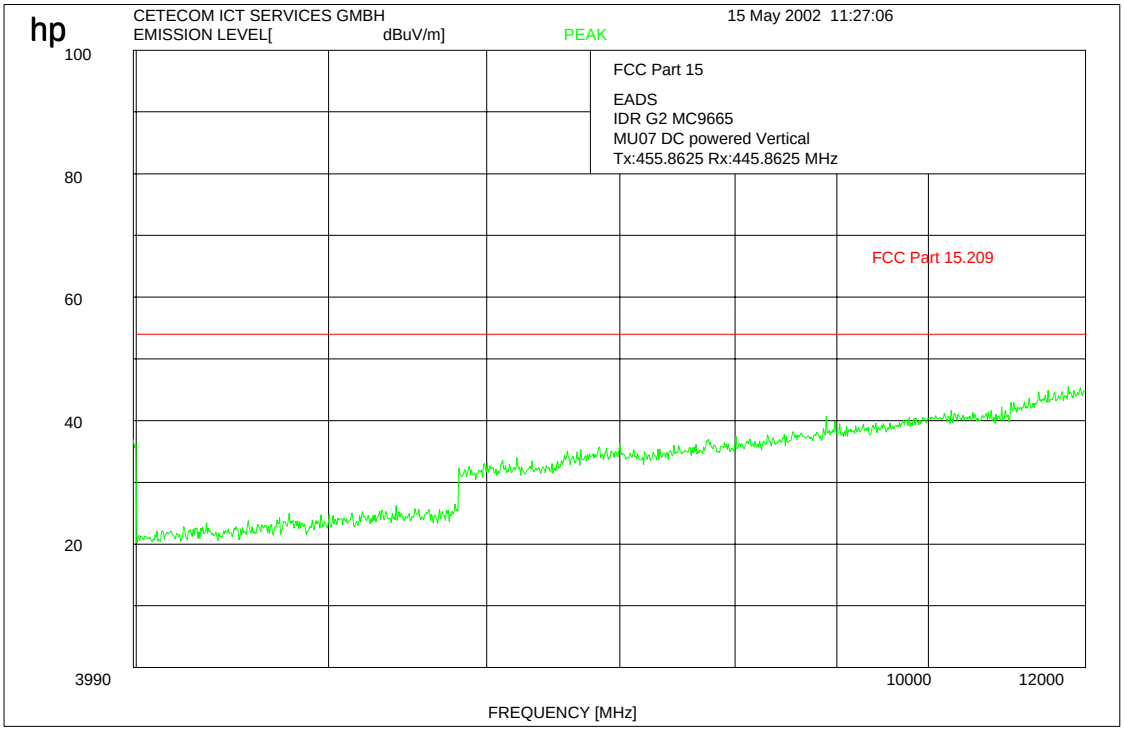
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17-24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.209

445.8625 MHz (DC powered)



f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Limits SUBCLAUSE § 15.209

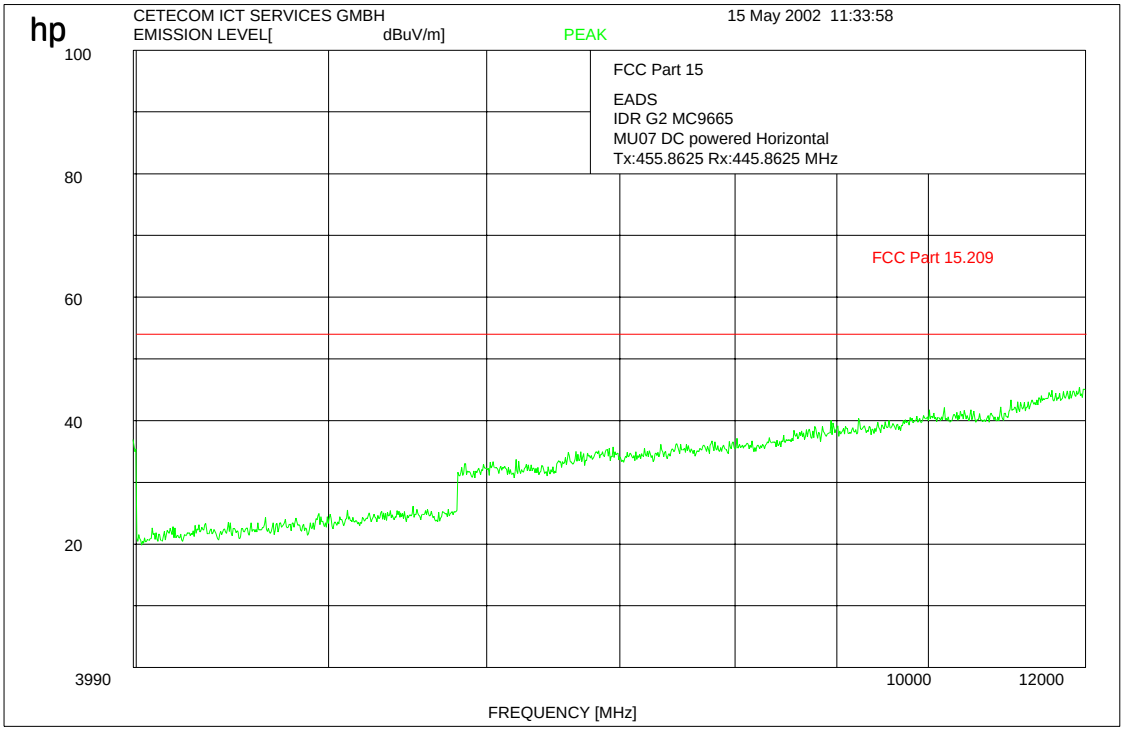
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17-24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.209

445.8625 MHz (DC powered)



f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

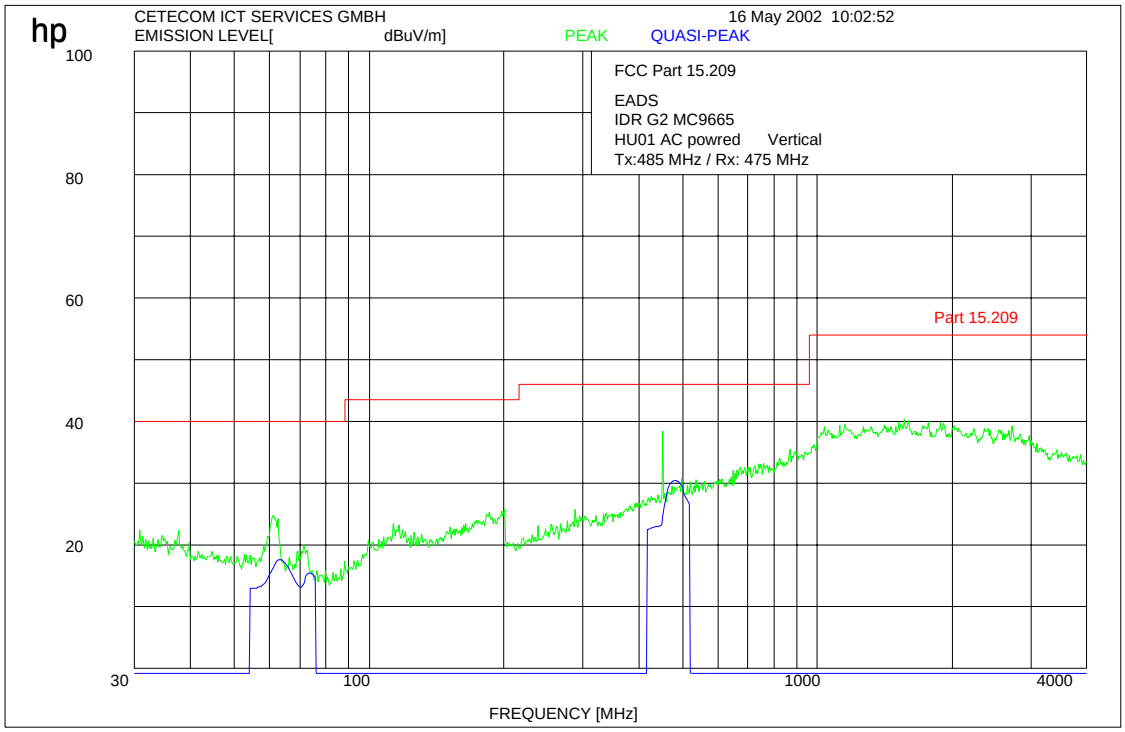
Limits SUBCLAUSE § 15.209

Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17-24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.209
475 MHz (AC powered)



f < 1 GHz : RBW/VBW: 100 kHz **f ≥ 1GHz : RBW/VBW: 1 MHz**

Limits **SUBCLAUSE § 15.209**

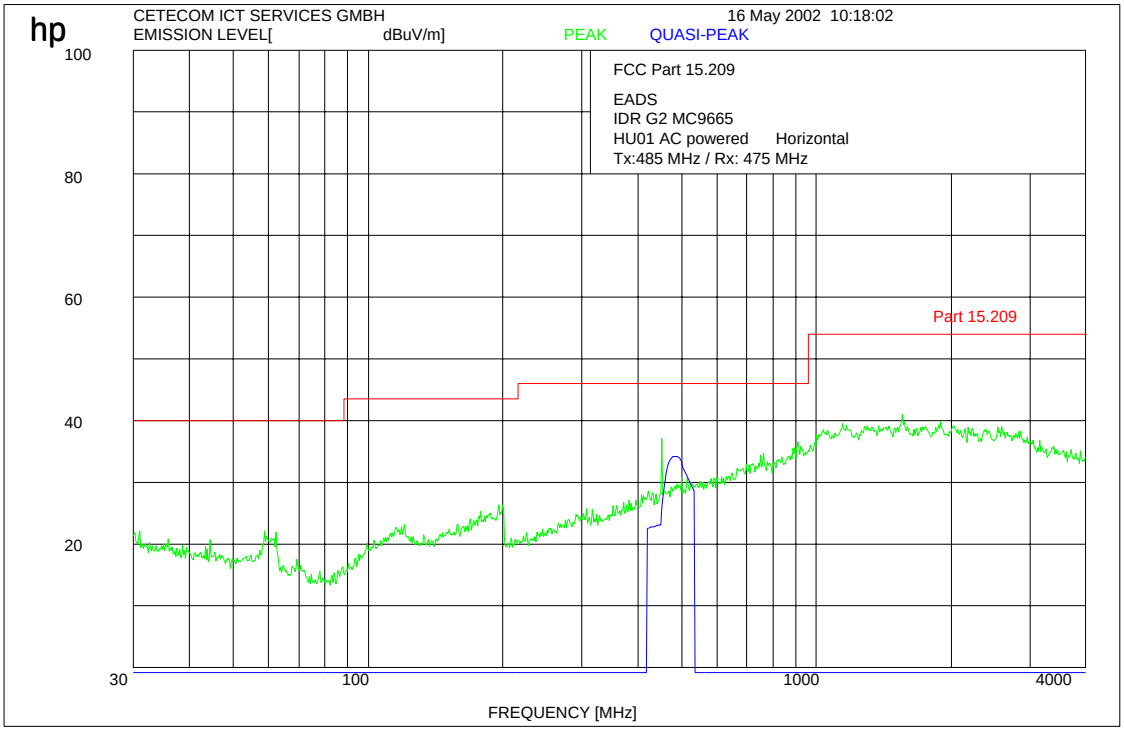
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17-24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.209

475 MHz (AC powered)



f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Limits SUBCLAUSE § 15.209

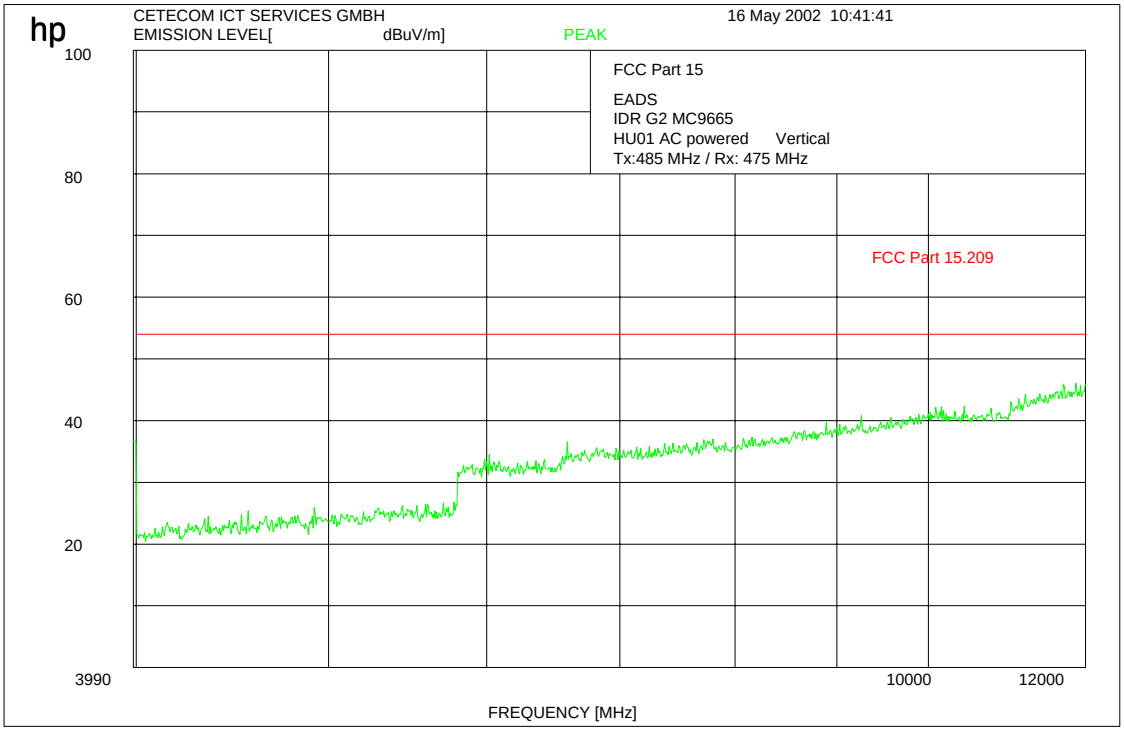
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17-24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.209

475 MHz (AC powered)



f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Limits SUBCLAUSE § 15.209

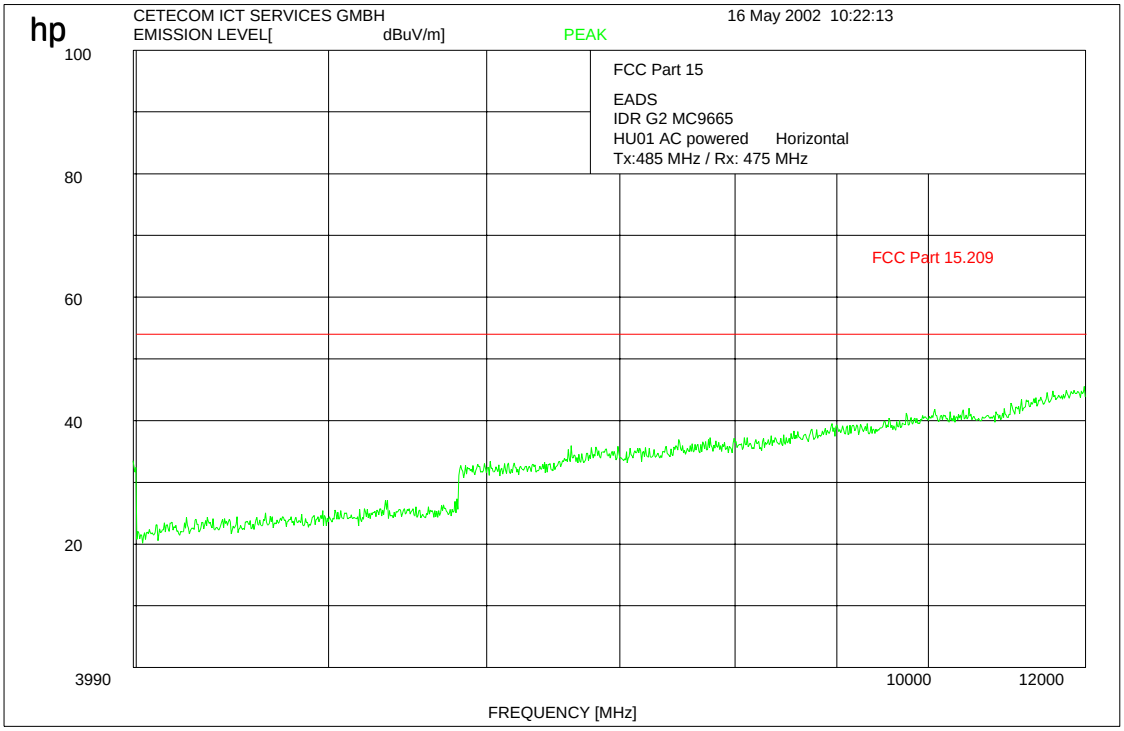
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17-24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.209

475 MHz (AC powered)



f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Limits SUBCLAUSE § 15.209

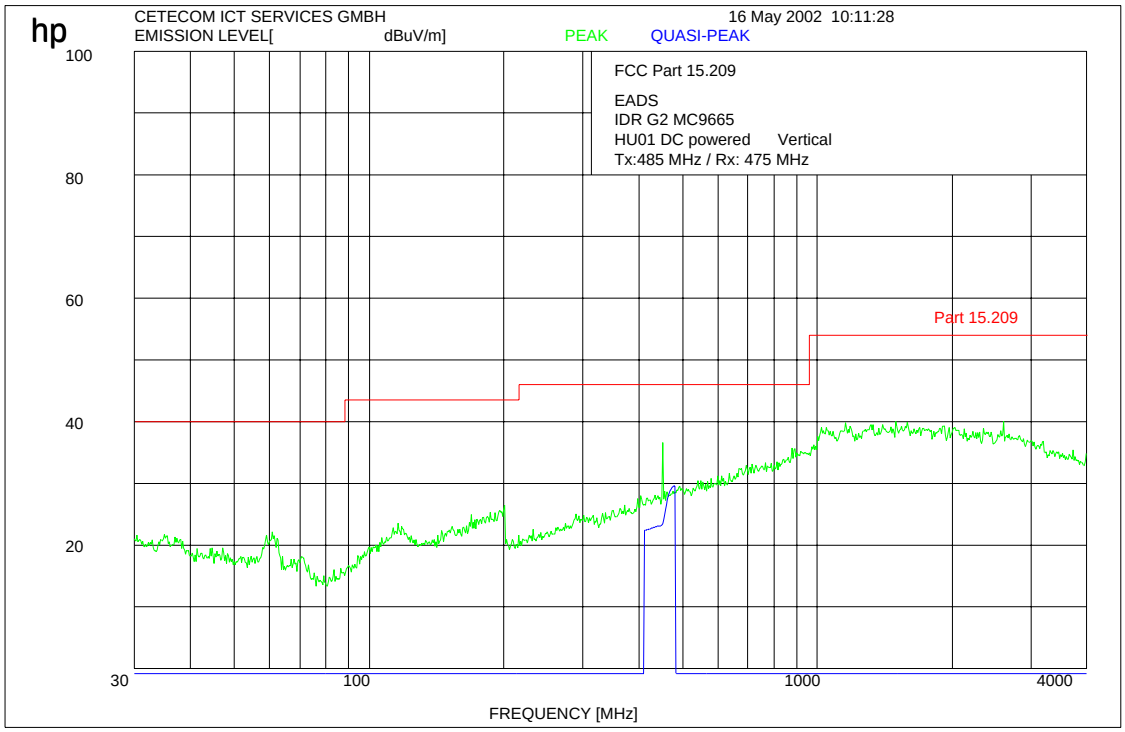
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17-24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.209

475 MHz (DC powered)



f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Limits SUBCLAUSE § 15.209

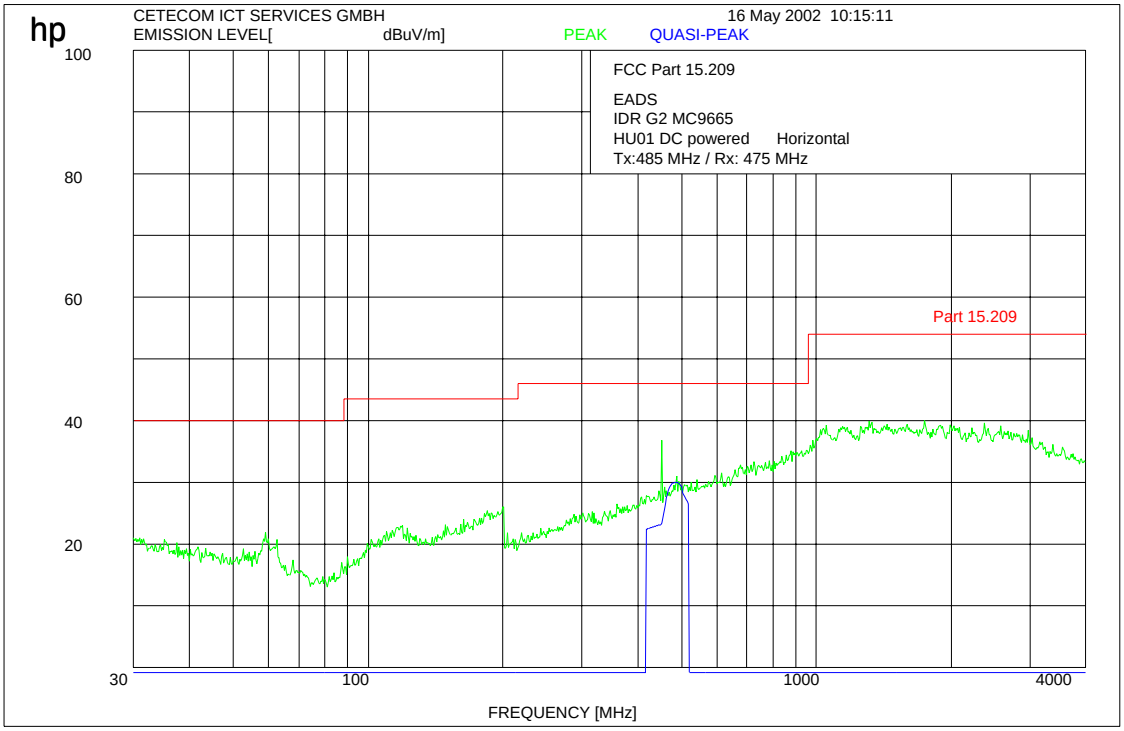
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17-24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.209

475 MHz (DC powered)



f < 1 GHz : RBW/VBW: 100 kHz **f ≥ 1GHz : RBW/VBW: 1 MHz**

Limits **SUBCLAUSE § 15.209**

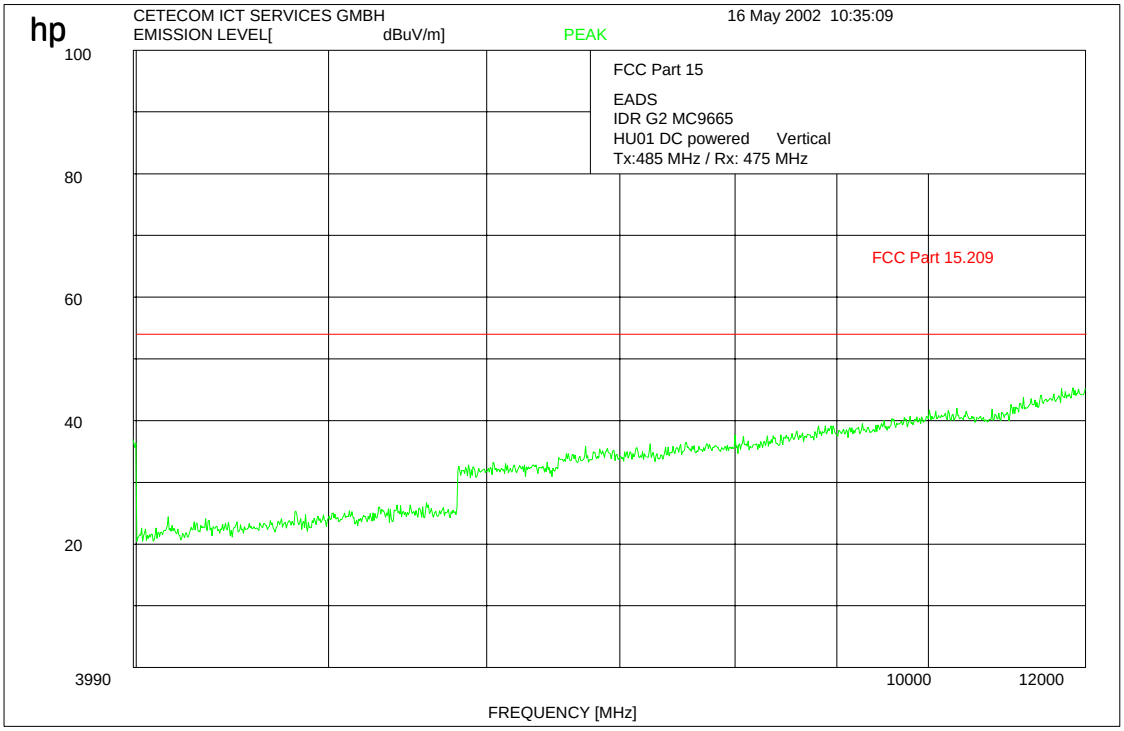
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17-24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.209

475 MHz (DC powered)



f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Limits SUBCLAUSE § 15.209

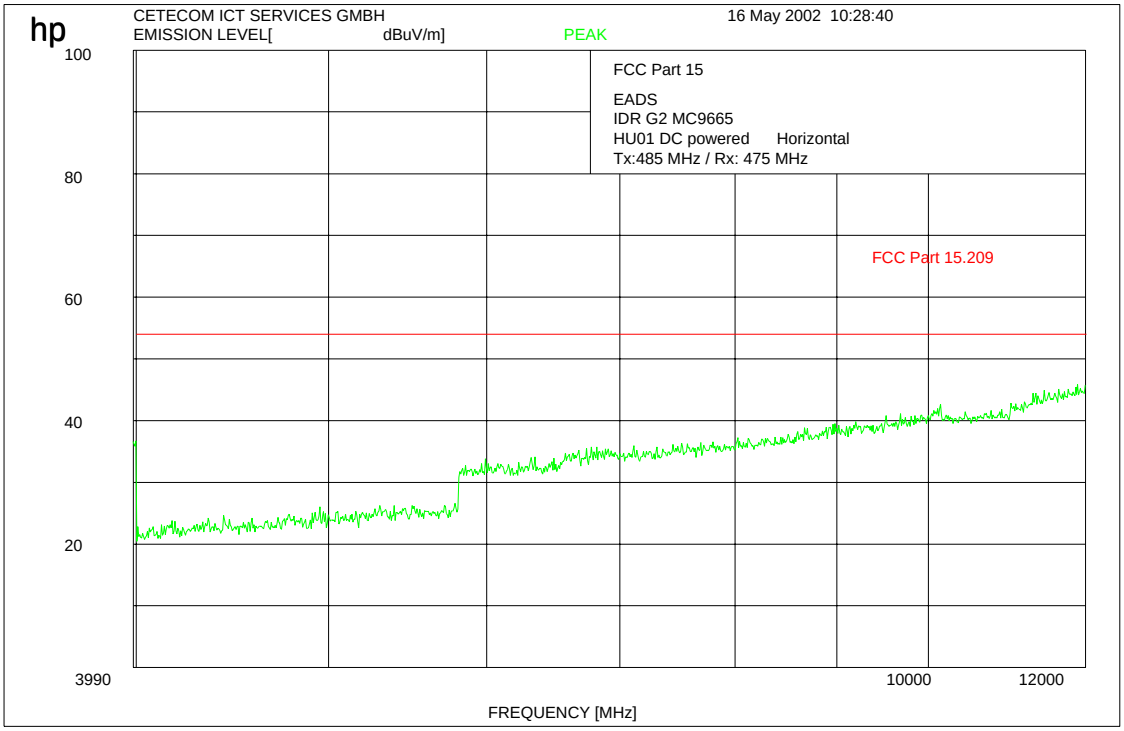
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17-24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

RECEIVER SPURIOUS RADIATION § 15.209

475 MHz (DC powered)



f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz

Limits SUBCLAUSE § 15.209

Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
above 960	500	3

REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
17-24

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

Conducted emissions § 15.107/207

FCC Rule 47 Part 15

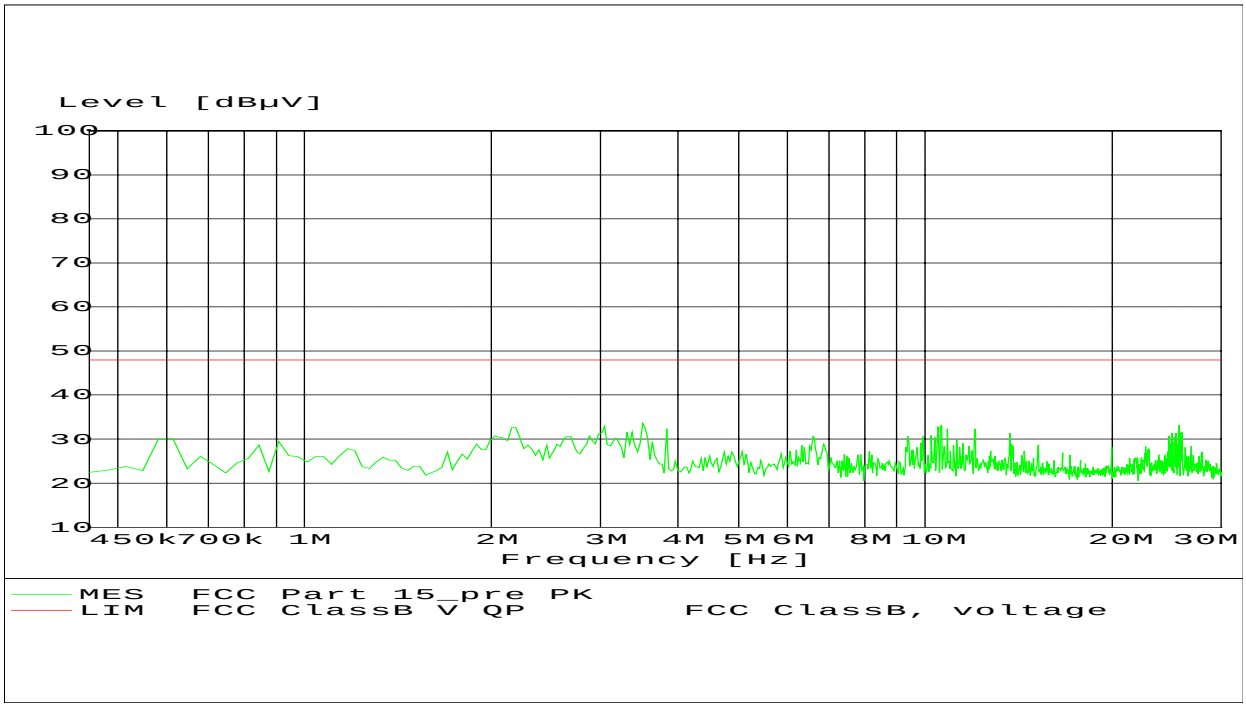
EUT: IDR G2 MC9665
Applicant: EDSN
Operating condition: Tx mode / Low Channel / Pmax
Test Site: CETECOM ICT Services GmbH Saarbrücken, Room 006
Operator: Pink

Power Supply: 115V
Start of Test: 17.05.02 / 08:40:11

SCANTABELLE: "FCC Part 15 AC"

Kurzbeschreibung: Voltage Mains 1.60

Start-Frequenz	Stop-Frequenz	Schritt-weite	Detektor	Meß-zeit	ZF-Bandbr.	Transducer
450.0 kHz	30.0 MHz	6.0 kHz	MaxPeak	100.0 ms	10 kHz	ESH3-Z5 L1 2209



REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
52-63

Equipment under test : IDR G2 M9665 C G2
Ambient temperature : 23°C
Relative humidity : 40%

Conducted emissions § 15.107/207

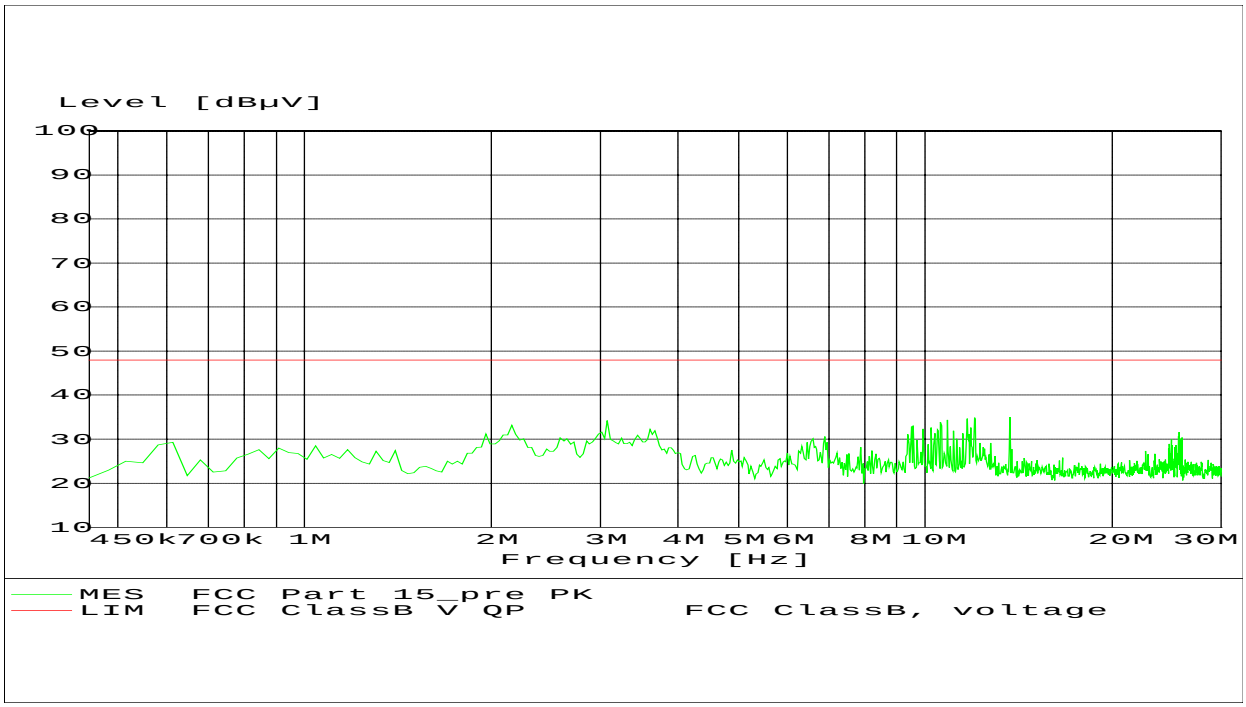
FCC Rule 47 Part 15

EUT: IDR G2 MC9665
Applicant: EDSN
Operating condition: Rx mode / Low Channel
Test Site: CETECOM ICT Services GmbH Saarbrücken, Room 006
Operator: BUR

Power Supply: 115V
Start of Test: 17.05.02 / 08:45:41

SCANTABELLE: "FCC Part 15 AC"
Kurzbeschreibung: Voltage Mains 1.60

Start-Frequenz	Stop-Frequenz	Schritt-weite	Detektor	Meß-zeit	ZF-Bandbr.	Transducer
450.0 kHz	30.0 MHz	6.0 kHz	MaxPeak	100.0 ms	10 kHz	ESH3-Z5 L1 2209



REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
52-63

TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS

To simplify the identification on each page of the test equipment used, on each page of the test report, each item of test equipment and ancillaries such as cables are identified (numbered) by the Test Laboratory, below.

No	Instrument/Ancillary	Type	Manufacturer	Serial No.
01	Spectrum Analyzer	8566 A	Hewlett-Packard	1925A00257
02	Analyzer Display	8566 A	Hewlett-Packard	1925A00860
03	Oscilloscope	7633	Tektronix	230054
04	Radio Analyzer	CMTA 54	Rohde & Schwarz	894 043/010
05	System Power Supply	6038 A	Hewlett-Packard	2848A07027
06	Signal Generator	8111 A	Hewlett-Packard	2215G00867
07	Signal Generator	8662 A	Hewlett-Packard	2224A01012
08	Funktionsgenerator	AFGU	Rohde & Schwarz	862 480/032
09	Regeltrenntrafo	MPL	Erfi	91350
10	Netznachbildung	NNLA 8120	Schwarzbeck	8120331
11	Relais-Matrix	PSU	Rohde & Schwarz	893 285/020
12	Power-Meter	436 A	Hewlett-Packard	2101A12378
13	Power-Sensor	8484 A	Hewlett-Packard	2237A10156
14	Power-Sensor	8482 A	Hewlett-Packard	2237A00616
15	Modulationsmeter	9008	Racal-Dana	2647
16	Frequenzzähler	5340 A	Hewlett-Packard	1532A03899
17	Absorber Schirmkabine	---	MWB	87400/002
18	Spectrum Analyzer	85660 B	Hewlett-Packard	2747A05306
19	Analyzer Display	85662 A	Hewlett-Packard	2816A16541
20	Quasi Peak Adapter	85650 A	Hewlett-Packard	2811A01131
21	RF-Preselector	85685 A	Hewlett-Packard	2833A00768
22	Biconical Antenne	3104	Emco	3758
23	Log. Per. Antenne	3146	Emco	2130
24	Double Ridge Horn	3115	Emco	3088
25	EMI-Testreceiver	ESAI	Rohde & Schwarz	863 180/013
26	EMI-Analyzer-Display	ESAI-D	Rohde & Schwarz	862 771/008
27	Biconical Antenne	HK 116	Rohde & Schwarz	888 945/013
28	Log. Per. Antenne	HL 223	Rohde & Schwarz	825 584/002
29	Relais-Switch-Unit	RSU	Rohde & Schwarz	375 339/002
30	Highpass	HM985955	FSY Microwave	001
31	Amplifier	P42-GA29	Tron-Tech	B 23602
32	Absorber Schirmkabine		Frankonia	
33	Steuerrechner	PSM 7	Rohde & Schwarz	834 621/004
34	EMI Test Reciever	ESMI	Rohde & Schwarz	827 063/010
35	EMI Test Receiver	Display	Rohde & Schwarz	829 808/010

TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS

To simplify the identification on each page of the test equipment used, on each page of the test report, each item of test equipment and ancillaries such as cables are identified (numbered) by the Test Laboratory, below.

No	Instrument/Ancillary	Type	Manufacturer	Serial No.
36	Controler	HD 100	Deisel	100/322/93
37	Relais Matrix	PSN	Rohde & Schwarz	829 065/003
38	Control Unit	GB 016 A2	Rohde & Schwarz	344 122/008
39	Relais Switch Unit	RSU	Rohde & Schwarz	316 790/001
40	Power Supply	6032A	Hewlett Packard	2846A04063
41	Spektrum Monitor	EZM	Rohde & Schwarz	883 720/006
42	Meßempfänger	ESH 3	Rohde & Schwarz	890 174/002
43	Meßempfänger	ESVP	Rohde & Schwarz	891 752/005
44	Biconi Ant. 20-300MHz	HK 116	Rohde & Schwarz	833 162/011
45	Logper Ant. 0.3-1 GHz	HL 223	Rohde & Schwarz	832 914/010
46	Amplifier 0.1-4 GHz	AFS4	Miteq Inc.	206461
47	Logper Ant. 1-18 GHz	HL 024 A2	Rohde & Schwarz	342 662/002
48	Polarisationsnetzwerk	HL 024 Z1	Rohde & Schwarz	341 570/002
49	Double Ridge G Horn Antenne 1-26.5 GHz	3115	EMCO	9107-3696
50	Microw. Sys. Amplifier 0.5- 26.5 GHz	8317A	Hewlett Packard	3123A00105
51	Audio Analyzer	UPD	Rohde & Schwarz	1030.7500.04
52	Steuerrechner	PSM 7	Rohde & Schwarz	883 086/026
53	DC V-Netzwerk	ESH3-Z6	Rohde & Schwarz	861 406/005
54	DC V-Netzwerk	ESH3-Z6	Rohde & Schwarz	893 689/012
55	AC 2 Phasen V-Netzwerk	ESH3-Z5	Rohde & Schwarz	861 189/014
56	AC 2 Phasen V-Netzwerk	ESH3-Z5	Rohde & Schwarz	894 981/019
57	AC-3 Phasen V-Netzwerk	ESH2-Z5	Rohde & Schwarz	882 394/007
58	Stromversorgung	6032A	Rohde & Schwarz	2933A05441
59	HF-Test Empfänger	ESVP.52	Rohde & Schwarz	881 487/021
60	Spectrum Monitor	EZM	Rohde & Schwarz	883 086/026
61	HF-Test Empfänger	ESH3	Rohde & Schwarz	881 515/002
62	Relais Matrix	PSU	Rohde & Schwarz	882 943/029
63	Relais Matrix	PSU	Rohde & Schwarz	828 628/007
64	Spectrum Analyzer	FSIQ 26	Rohde & Schwarz	119.6001.27
65	Spectrum Analyzer	HP 8565E	Hewlett Packard	3473A00773
66	Bidirektionalkoppler	DC 3010	Amplifier res.	12306
67	Oscilloscope	54502A	HP	2934A01917
68	Radiocommunic.Analyz.	4040	Schlumberger	1725117