CETECOM ICT Services GmbH

Radio Satellite Communication
Untertürkheimer Straße 6-10 . D-66117 Saarbrücken Telefon: +49 (0)681 598-9100 Telefax: -9075

TTI-P-G166/98

Accredited Bluetooth™ Test Facility (BQTF)

Test report no.:5_3682-A/00
FCC Part 2, 15, 90
MC9600 G2

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

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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
DAR-registration number : TTI-P-G 166/98-20
Accredited Bluetooth™ Test Facility (BQTF)

1.3 Details of applicant

Name : EADS Defence and Security Networks
Street : Rue J.P Timbaud-MS01, BP 26
City : F78392 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 : 12.06.01
Date of receipt of test item : 11.07.01
Date of test : 16.-20.07.01

1.5 Test item

Type of equipment	:	**PMR Radio Base Station**
Type designation	:	**MC9600 BS8 G2**
Manufacturer	:	applicant
Street	:	
City	:	
Country	:	
Serial number	:	see photographs
Additional informations:	**:**	
Frequency	:	440 - 490 MHz
Type of modulation	:	12K0F1D
Number of channels	:	4000
Antenna	:	N-socket
Power supply	:	48V DC
Output power	:	19.45 W
Type of equipment	:	Temperature range : -20°C - +50°C

1.6 Test standards: FCC Part 2, 15, 90

2 Technical test

2.1 Summary of test results

The radiated measurements were performed verticalyand horizontal

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 :

Date	Section	Name	Signature
26.07.01	RSC 8411	Berg M.	

Technical responsibility for area of testing :

Date	Section	Name	Signature
26.07.01	RSC8414	Ames H.	

2.2 Testreport

TEST REPORT

Testreport no. : 5_3682-A/00

TEST REPORT REFERENCE

LIST OF MEASUREMENTS

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

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

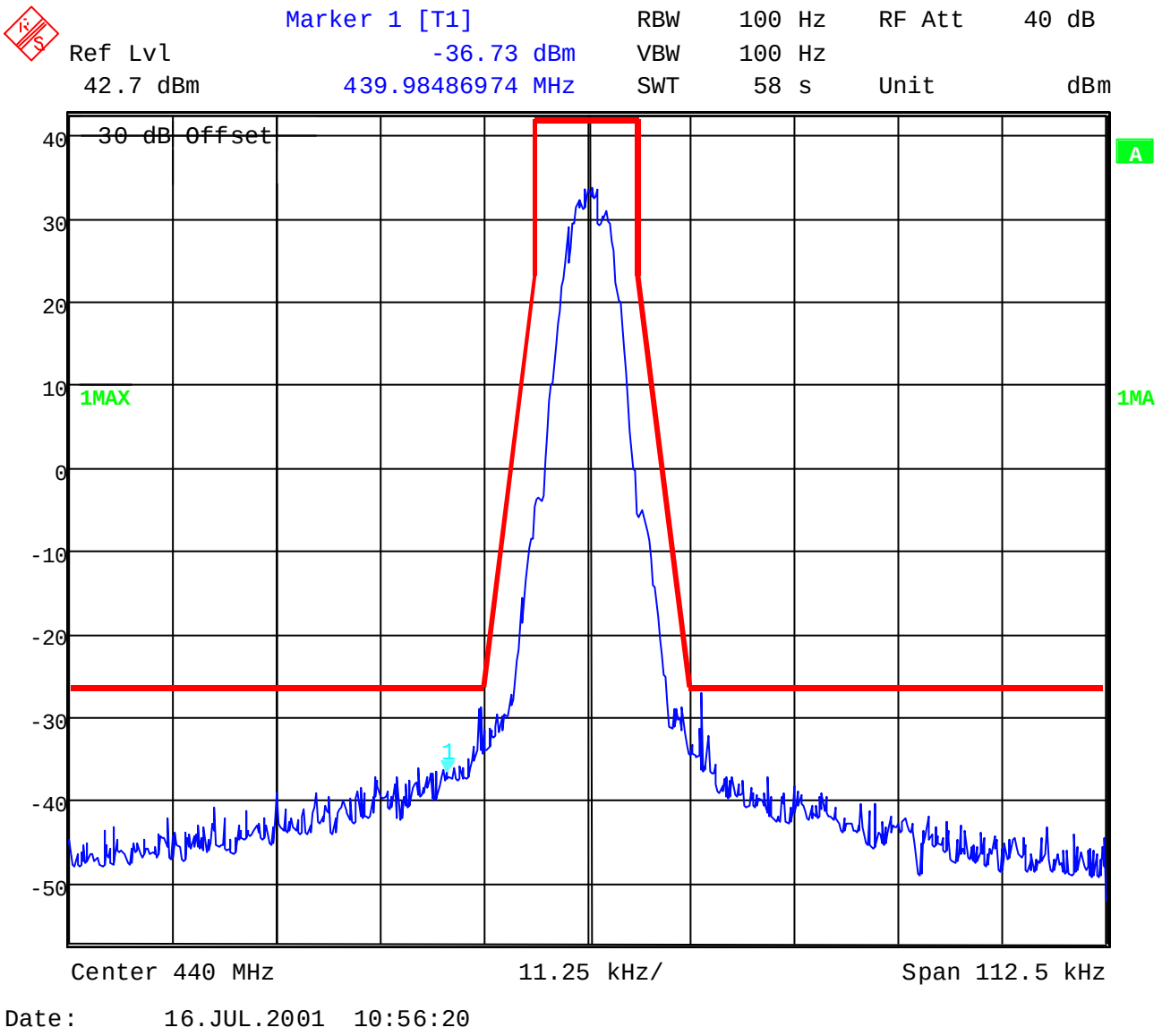
Power (W)					
Frequency	**440 MHz**	**450 MHz**	**460 MHz**	**470 MHz**	**490 MHz**
Low power	**59.52**	**61.44**	**62.40**	**63.84**	**63.36**
High power	**195.36**	**199.68**	**195.84**	**210.24**	**211.68**
Measurement uncertainty	**± 3 %**				

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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

OCCUPIED BANDWIDTH §2.989

440 MHz (max. power)



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

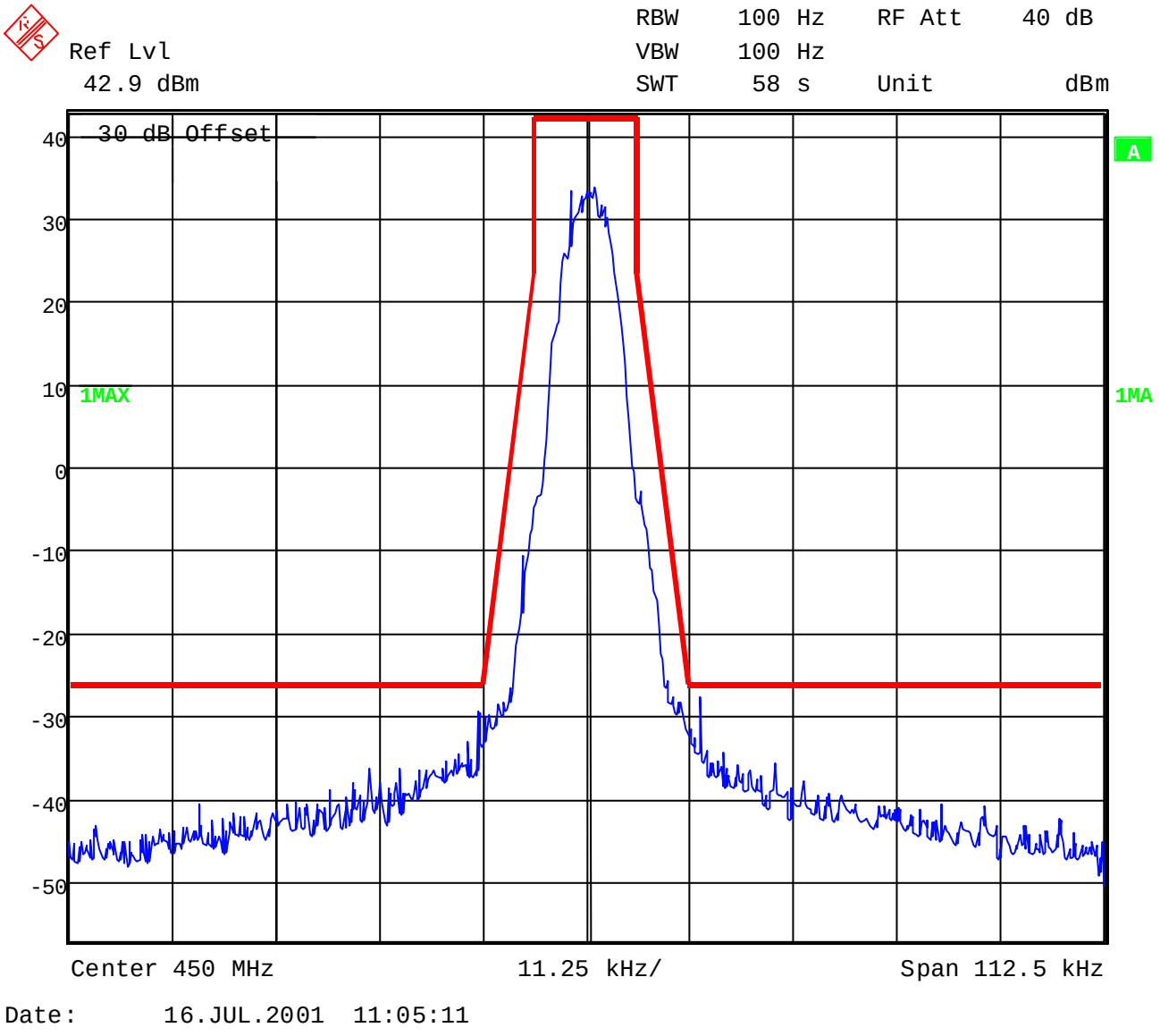
LIMITS **SUBCLAUSE § 90.210**

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 : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

OCCUPIED BANDWIDTH **§2.989**
450 MHz (max. power)



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

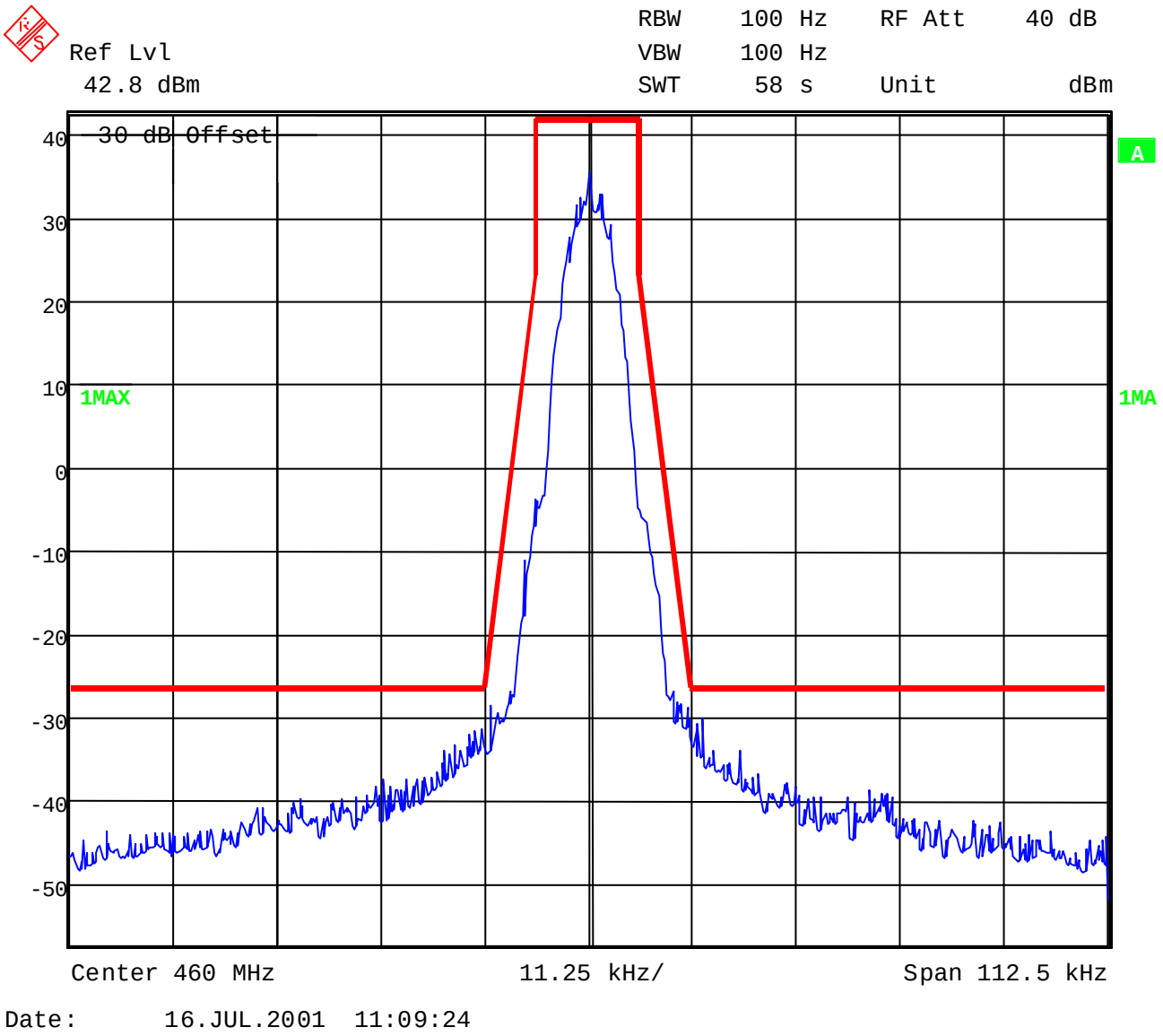
LIMITS **SUBCLAUSE § 90.210**

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 : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

OCCUPIED BANDWIDTH **§2.989**
460 MHz (max. power)



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

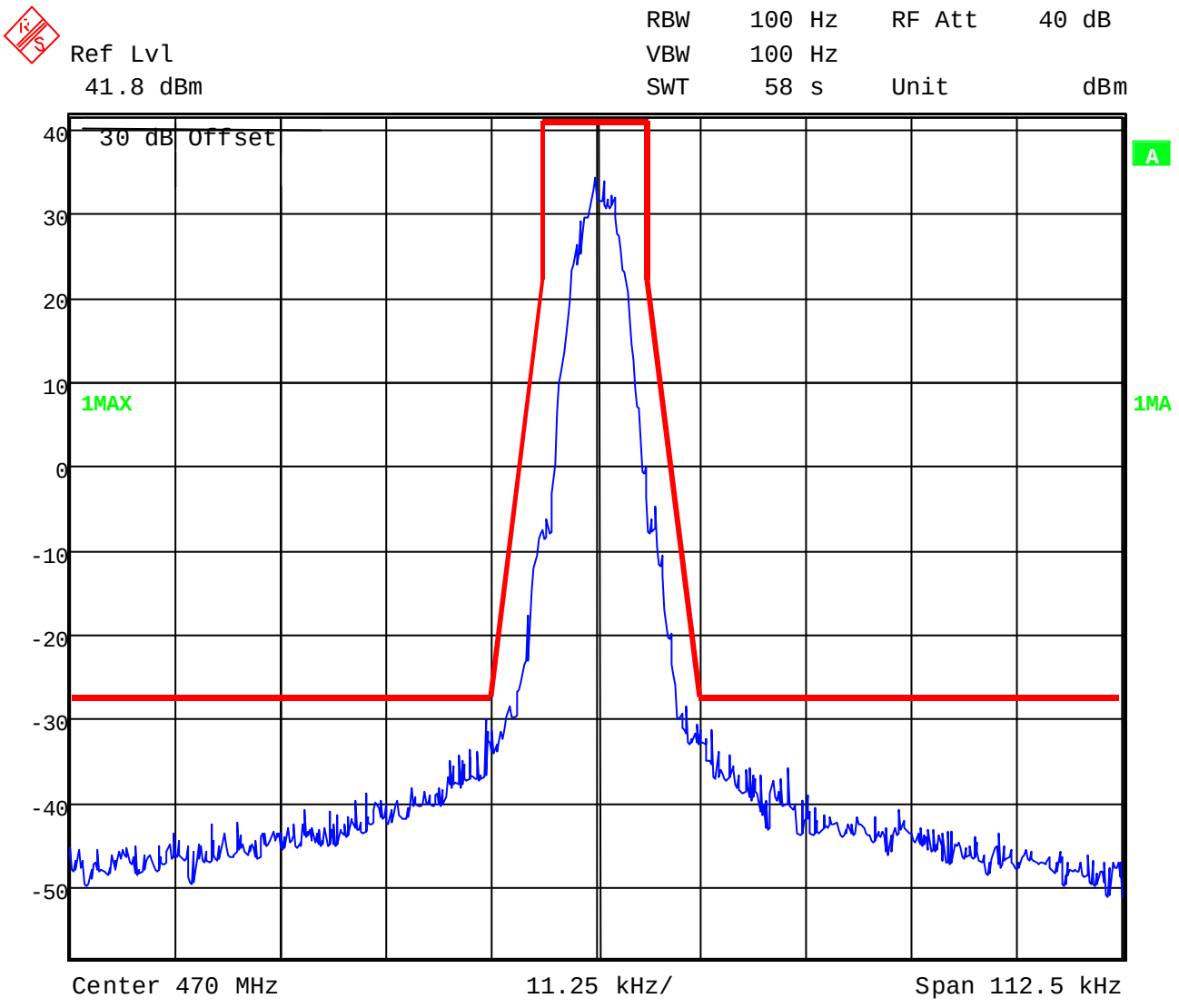
LIMITS **SUBCLAUSE § 90.210**

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 : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

OCCUPIED BANDWIDTH **§2.989**
470 MHz (max. power)



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

LIMITS **SUBCLAUSE § 90.210**

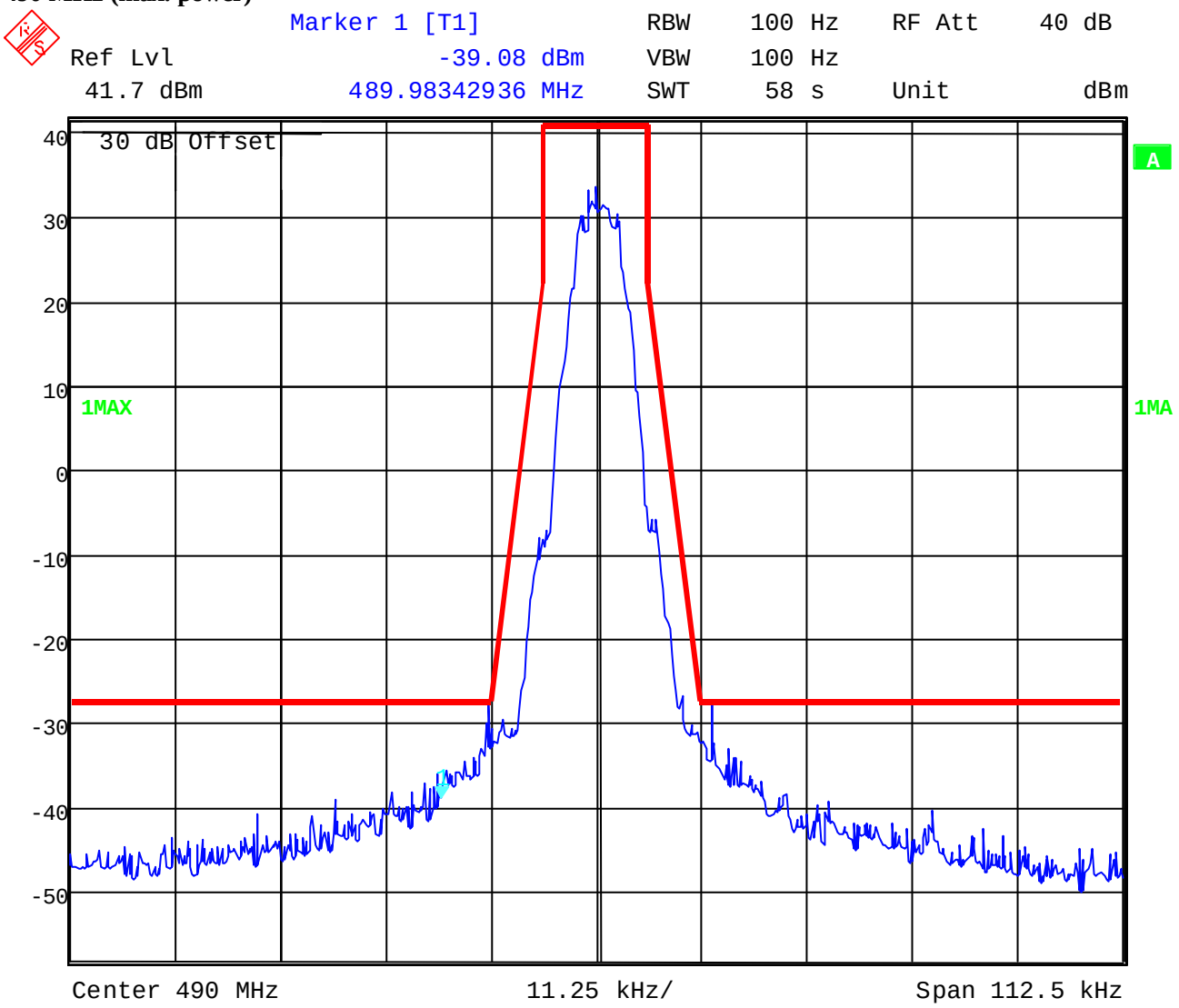
Emission Mask D – 12.5 kHz channel bandwidth

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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

OCCUPIED BANDWIDTH **§2.989**

490 MHz (max. power)



Date: 16.JUL.2001 11:17:46

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

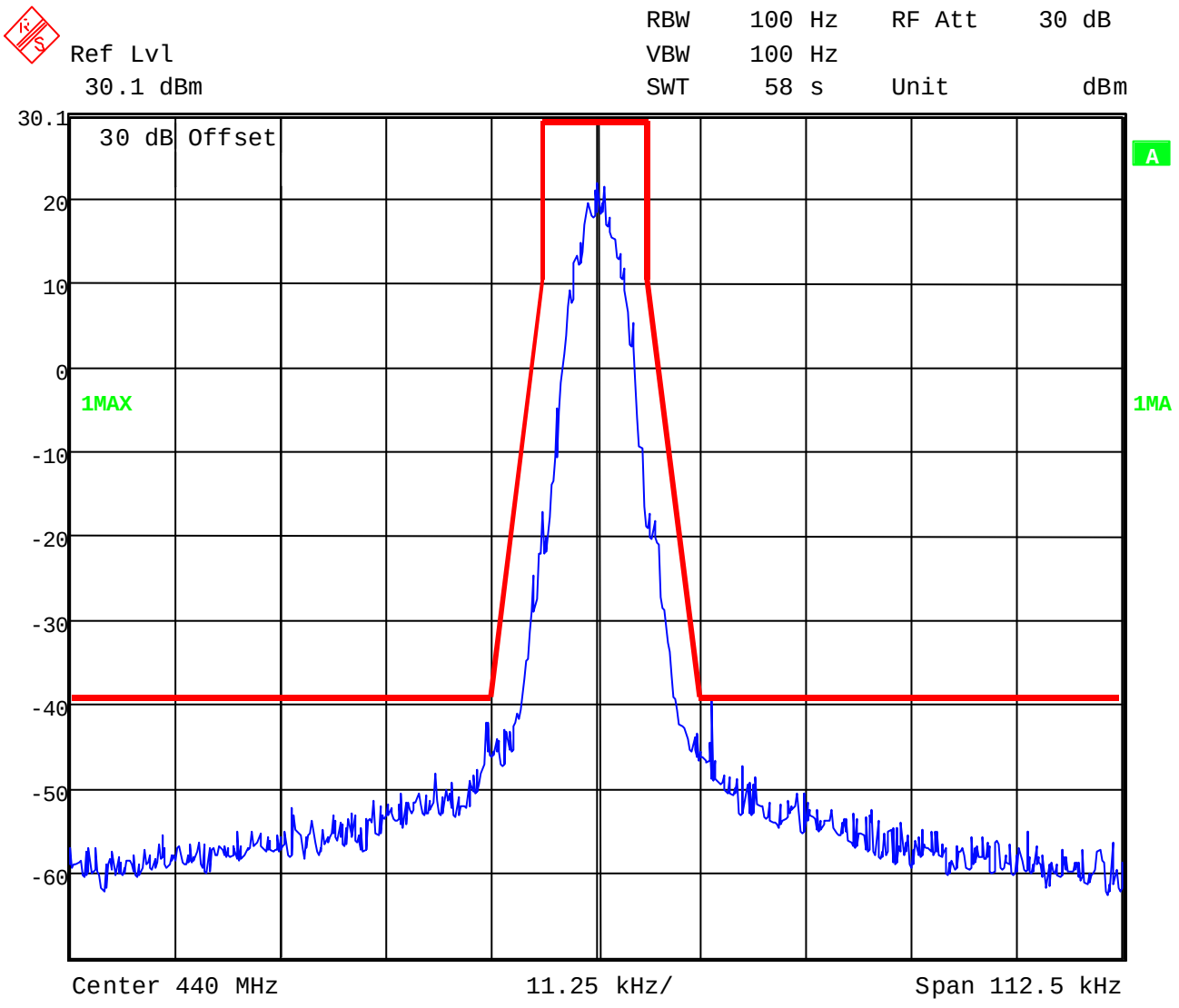
LIMITS **SUBCLAUSE § 90.210**

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 : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

OCCUPIED BANDWIDTH **§2.989**
440 MHz (min. power)



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

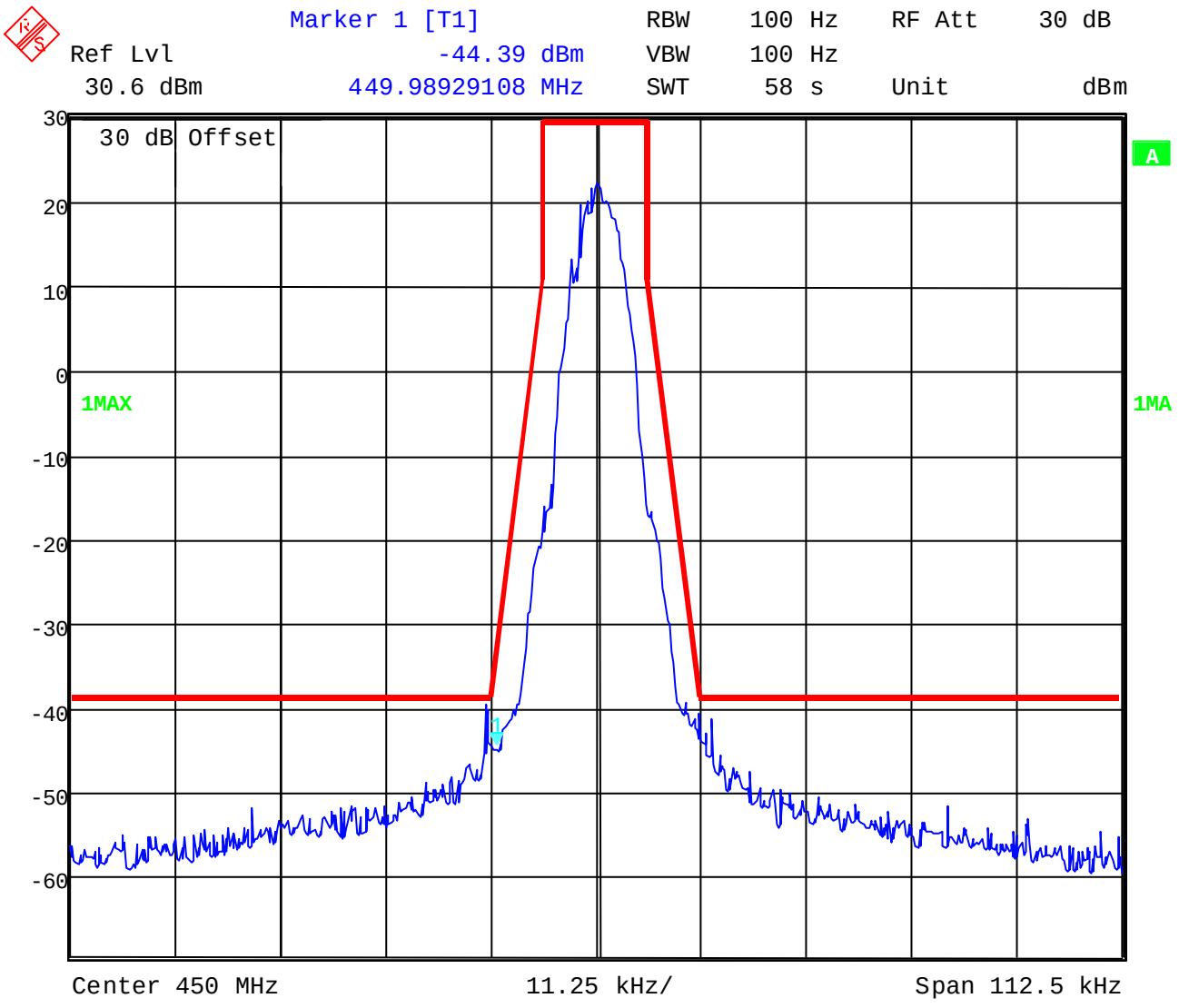
LIMITS **SUBCLAUSE § 90.210**

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 : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

OCCUPIED BANDWIDTH **§2.989**
450 MHz (min. power)



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

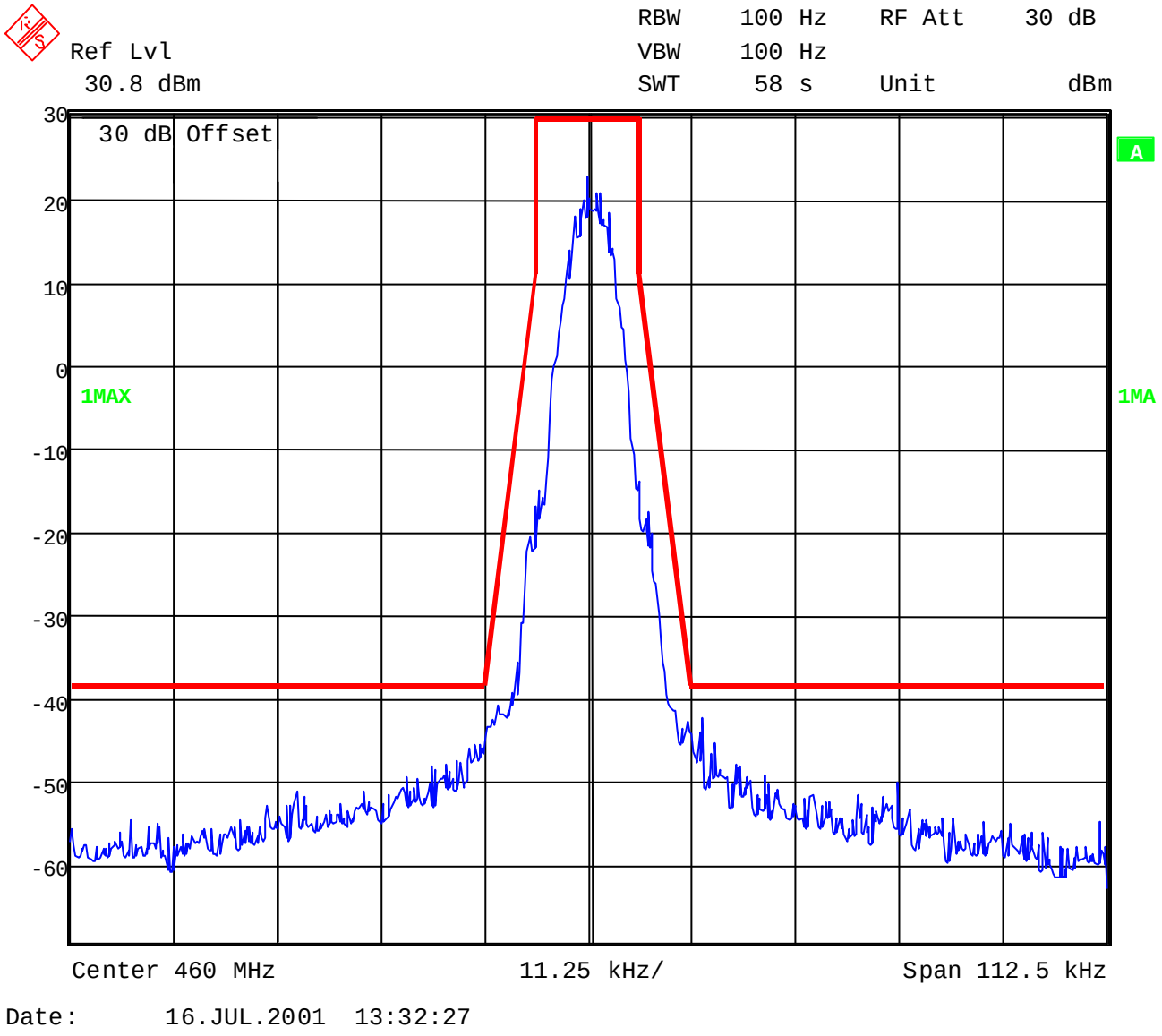
LIMITS **SUBCLAUSE § 90.210**

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 : **MC9600 BS8 G2**
Ambient temperature : **23° C**
Relative humidity : **43%**

OCCUPIED BANDWIDTH **§2.989**
460 MHz (min. power)



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

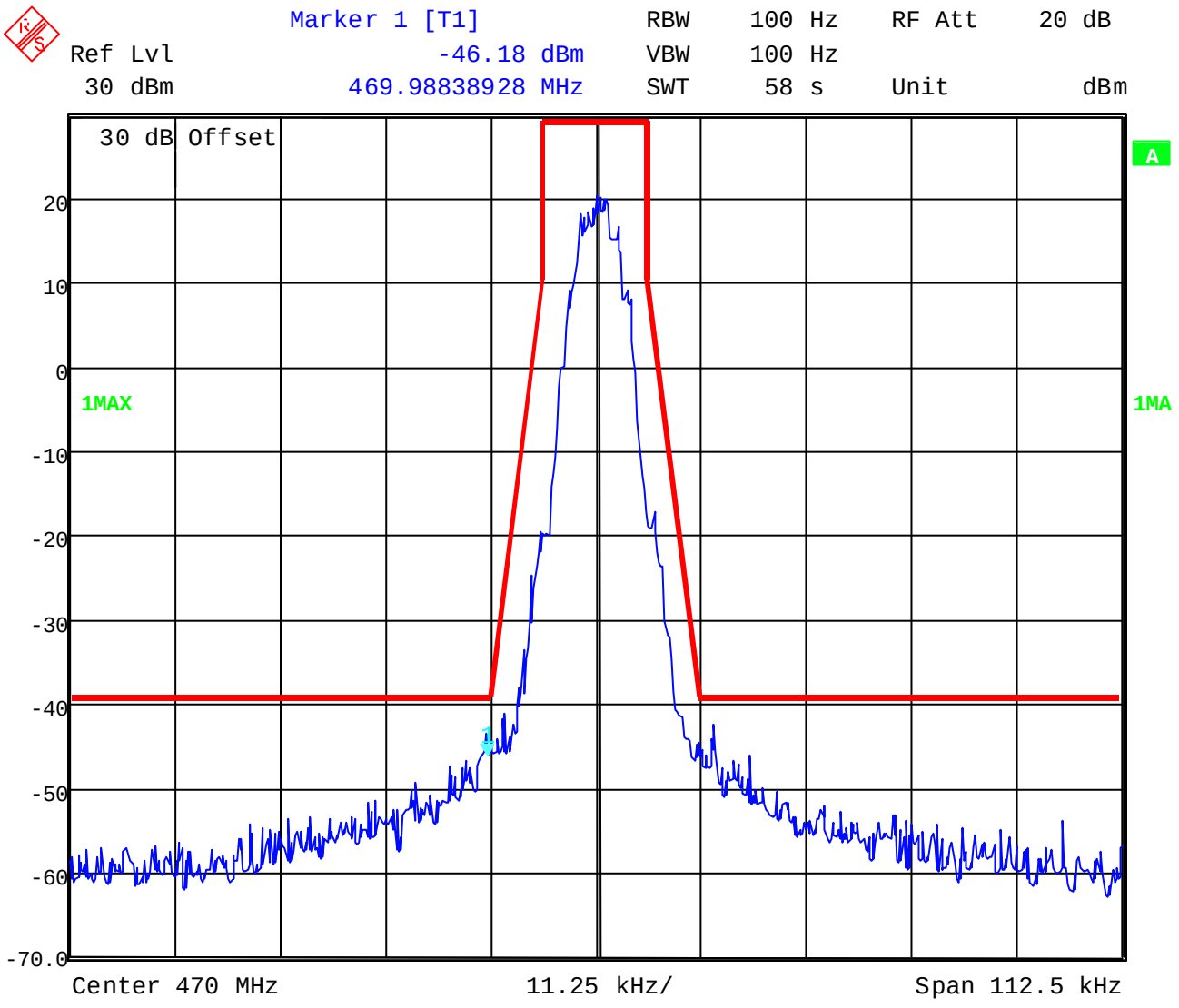
LIMITS **SUBCLAUSE § 90.210**

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 : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

OCCUPIED BANDWIDTH **§2.989**
470 MHz (min. power)



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

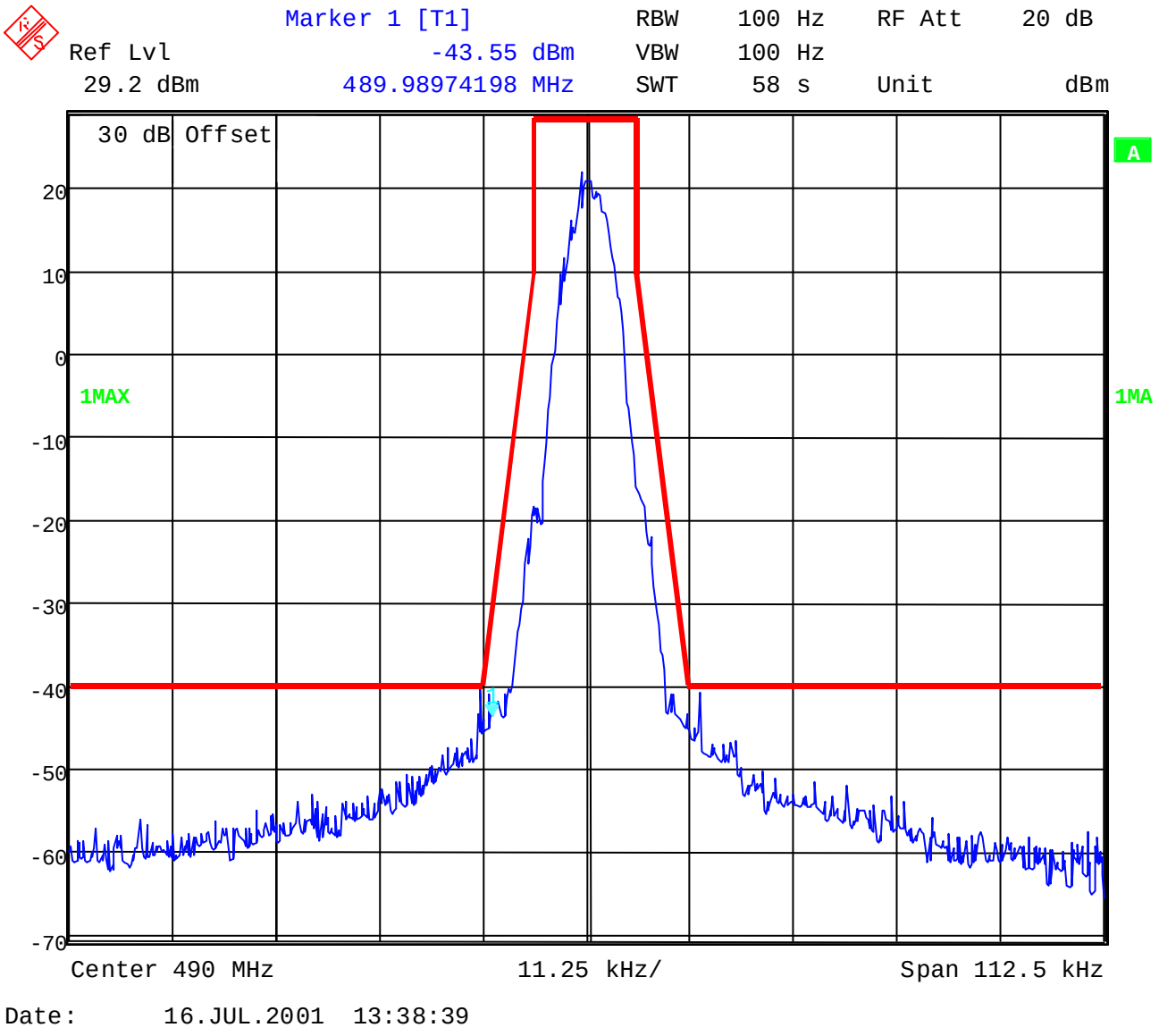
LIMITS **SUBCLAUSE § 90.210**

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 : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

OCCUPIED BANDWIDTH **§2.989**
490 MHz (min. power)



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 : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

PEAK OUTPUT POWER SUBCLAUSE § 2.1046
(conducted)

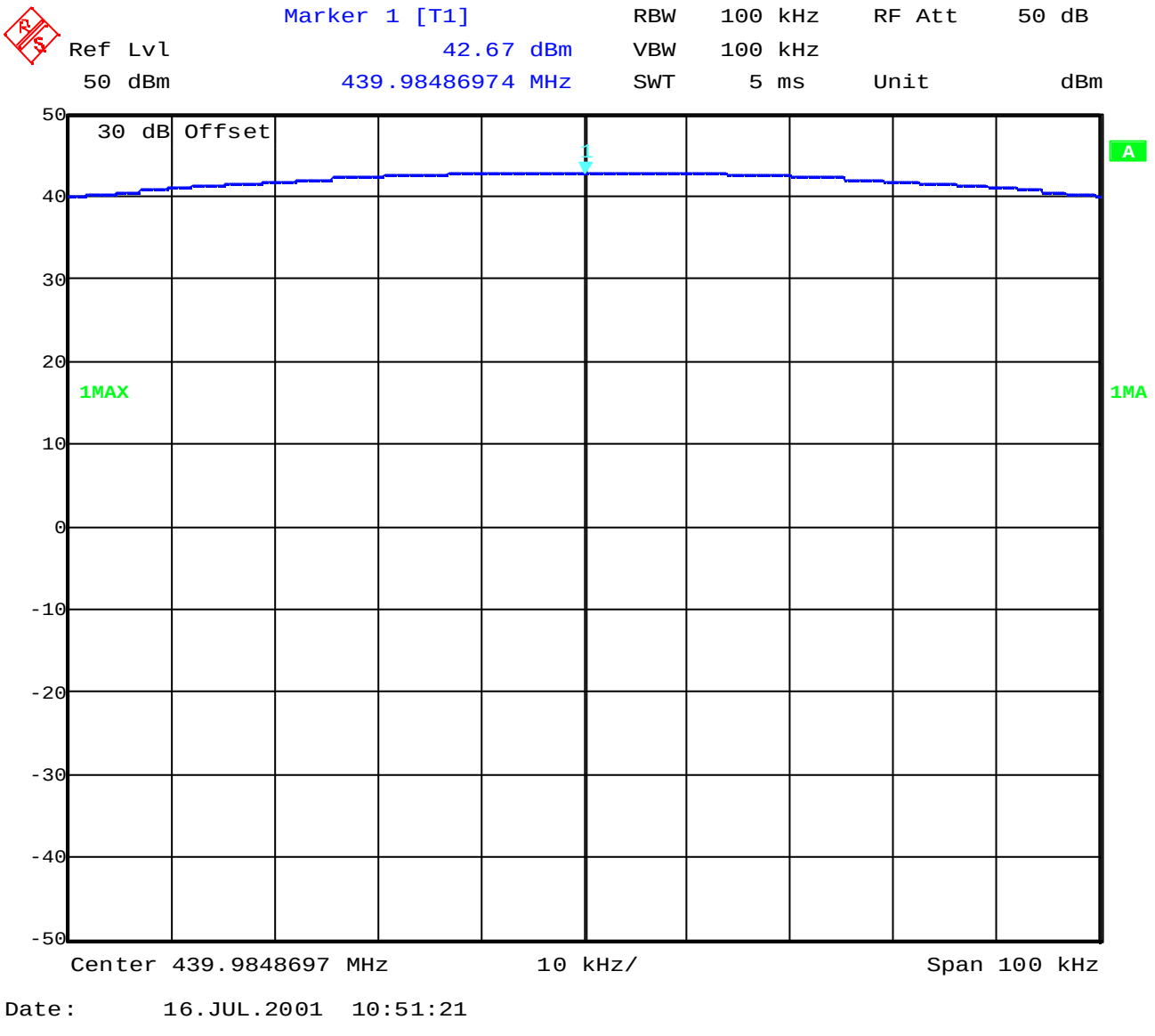
TEST CONDITIONS			OUTPUT POWER (W)				
Frequency (MHz)			440	450	460	470	490
T_{nom}(23)° C	V_{nom}(48)V	Max	18.50	19.45	19.17	15.31	14.66
		Min	1.03	1.15	1.20	0.99	0.83
Maximum deviation from output power under extreme test conditions (dBc)			not applicable	not applicable	not applicable		
Measurement uncertainty			±3dB				

RBW / VBW : 100 kHz

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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

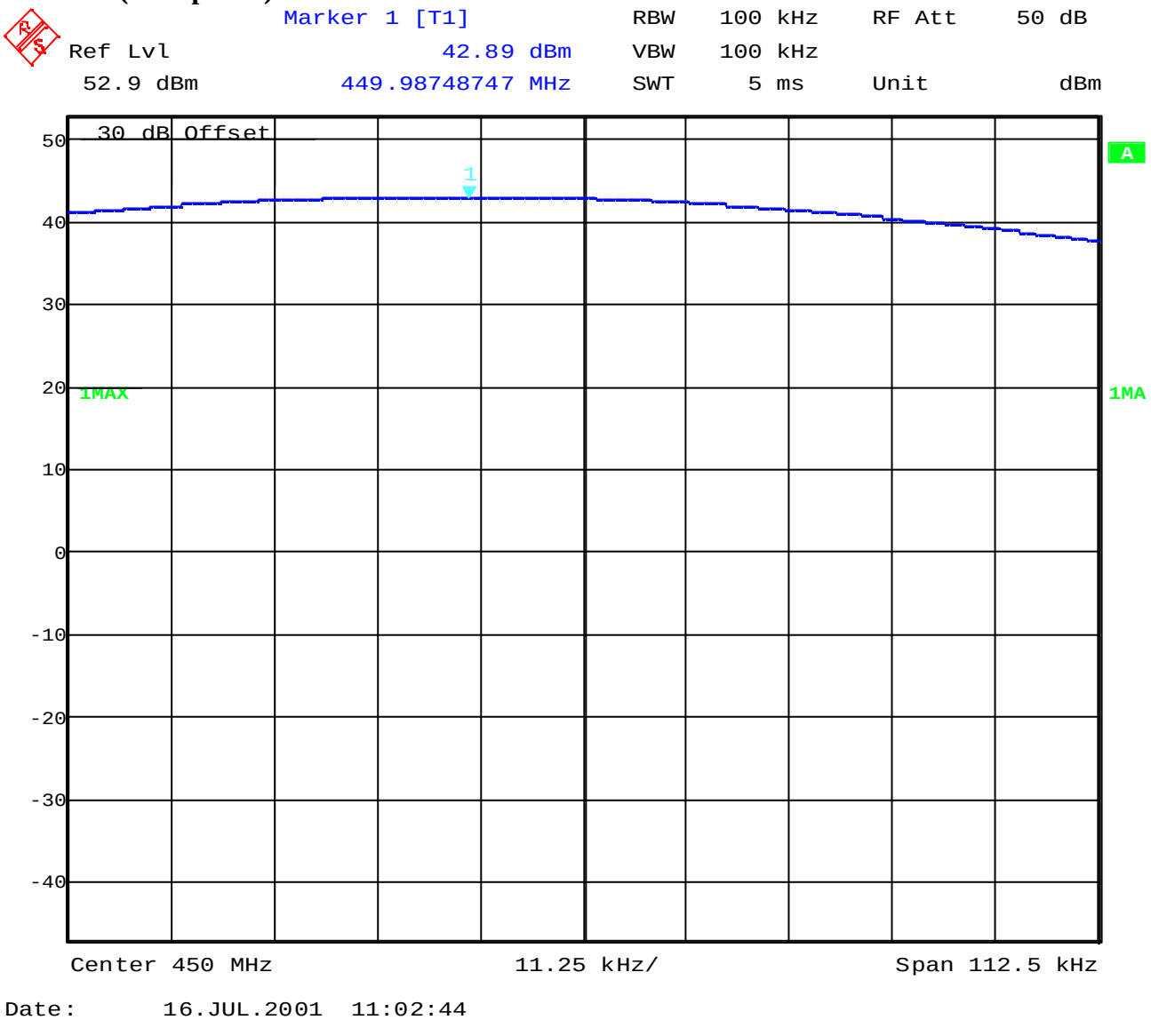
Peak output power (conducted)
440 MHz (max. power)



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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

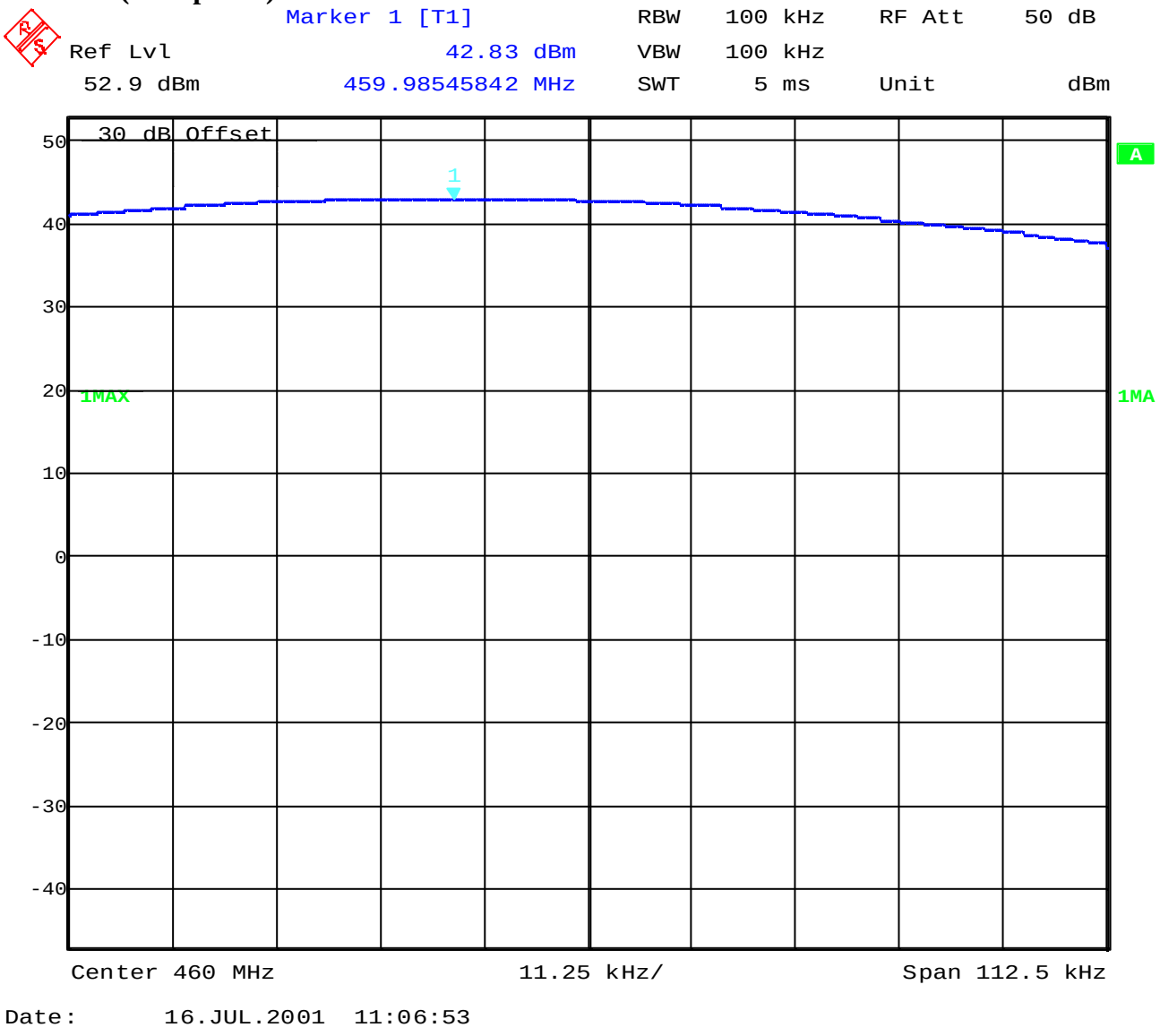
Peak output power (conducted)
450 MHz (max. power)



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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

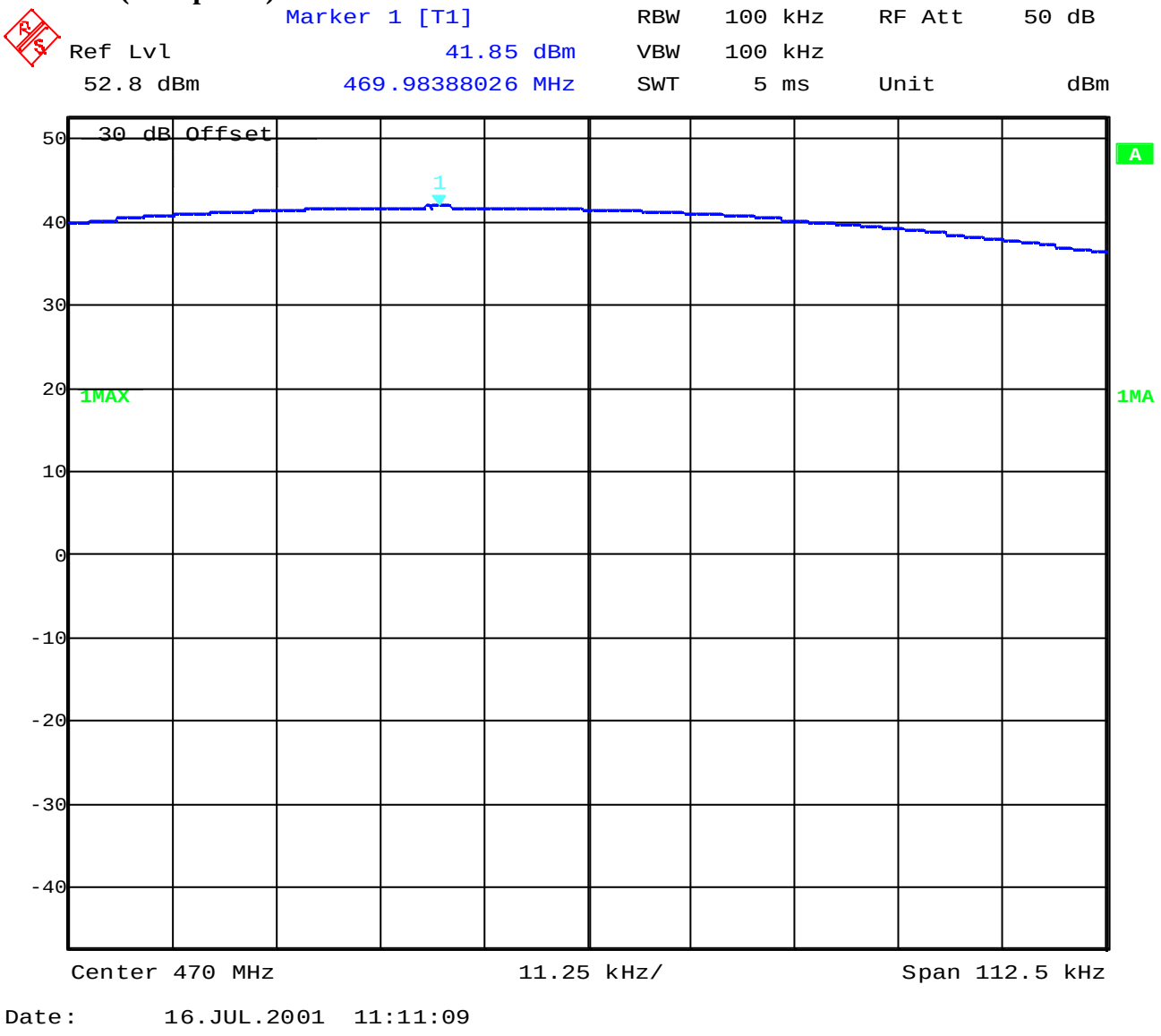
Peak output power (conducted)
460 MHz (max. power)



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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

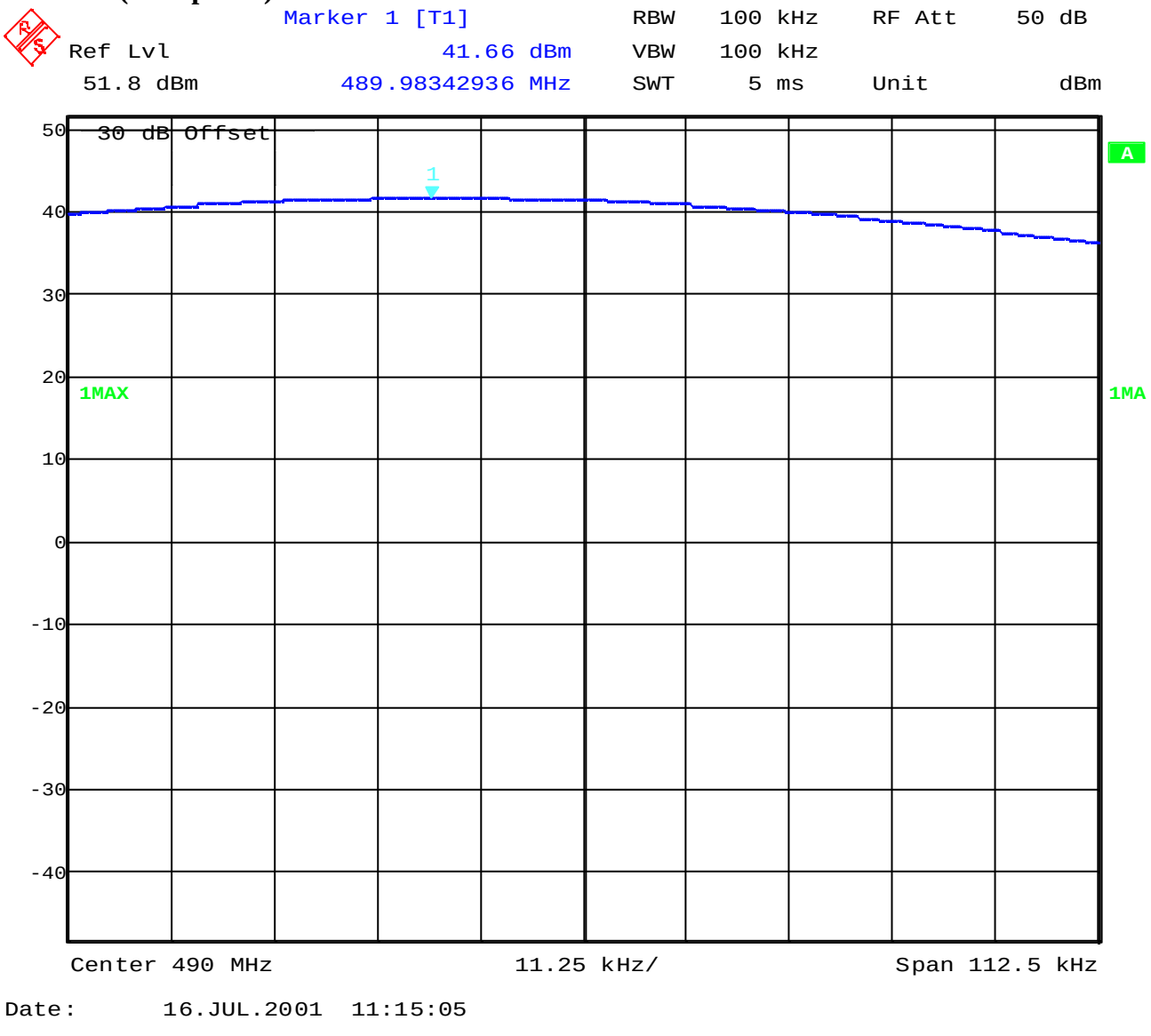
Peak output power (conducted)
470 MHz (max. power)



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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

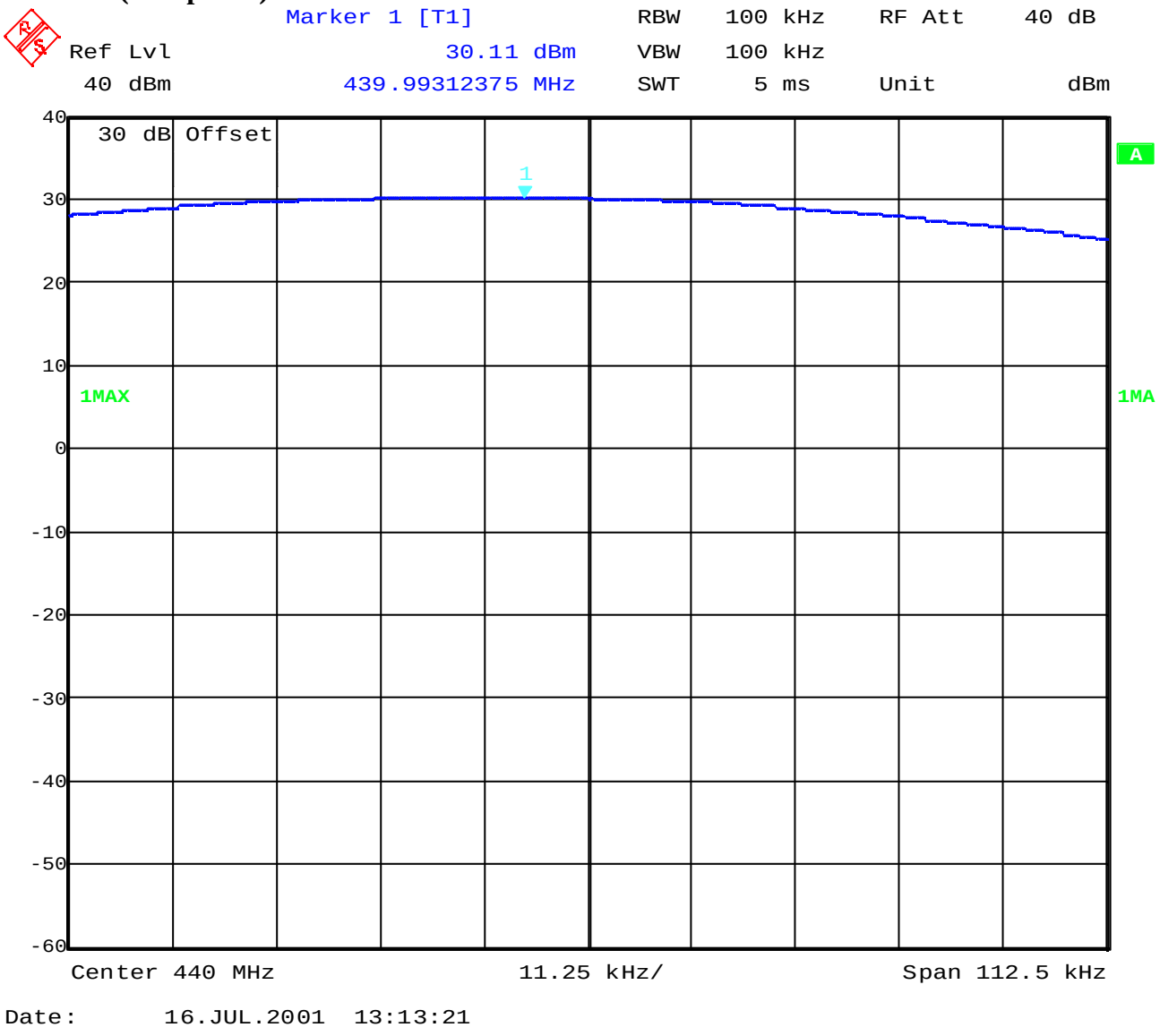
Peak output power (conducted)
490 MHz (max. power)



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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

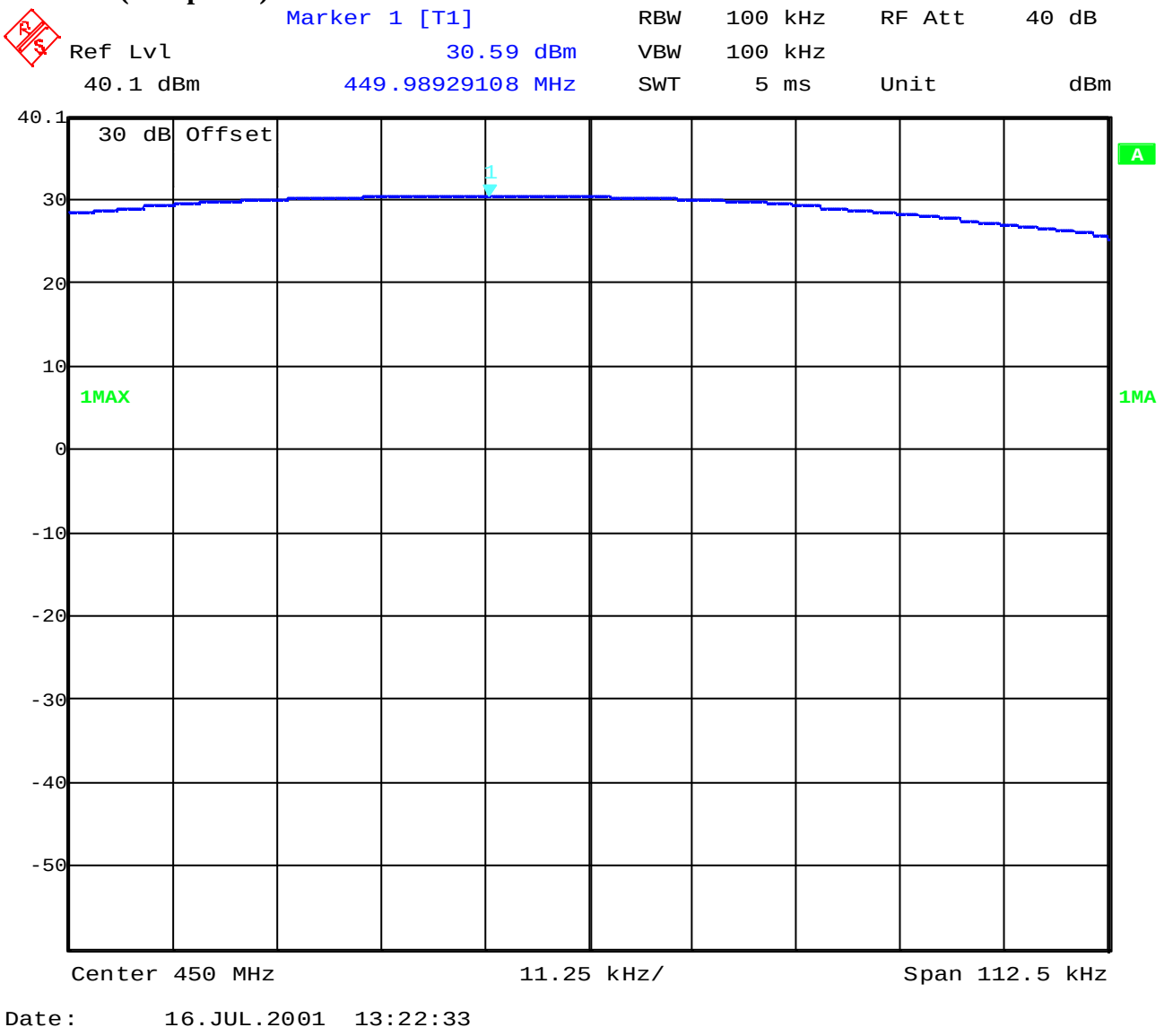
Peak output power (conducted)
440 MHz (min. power)



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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

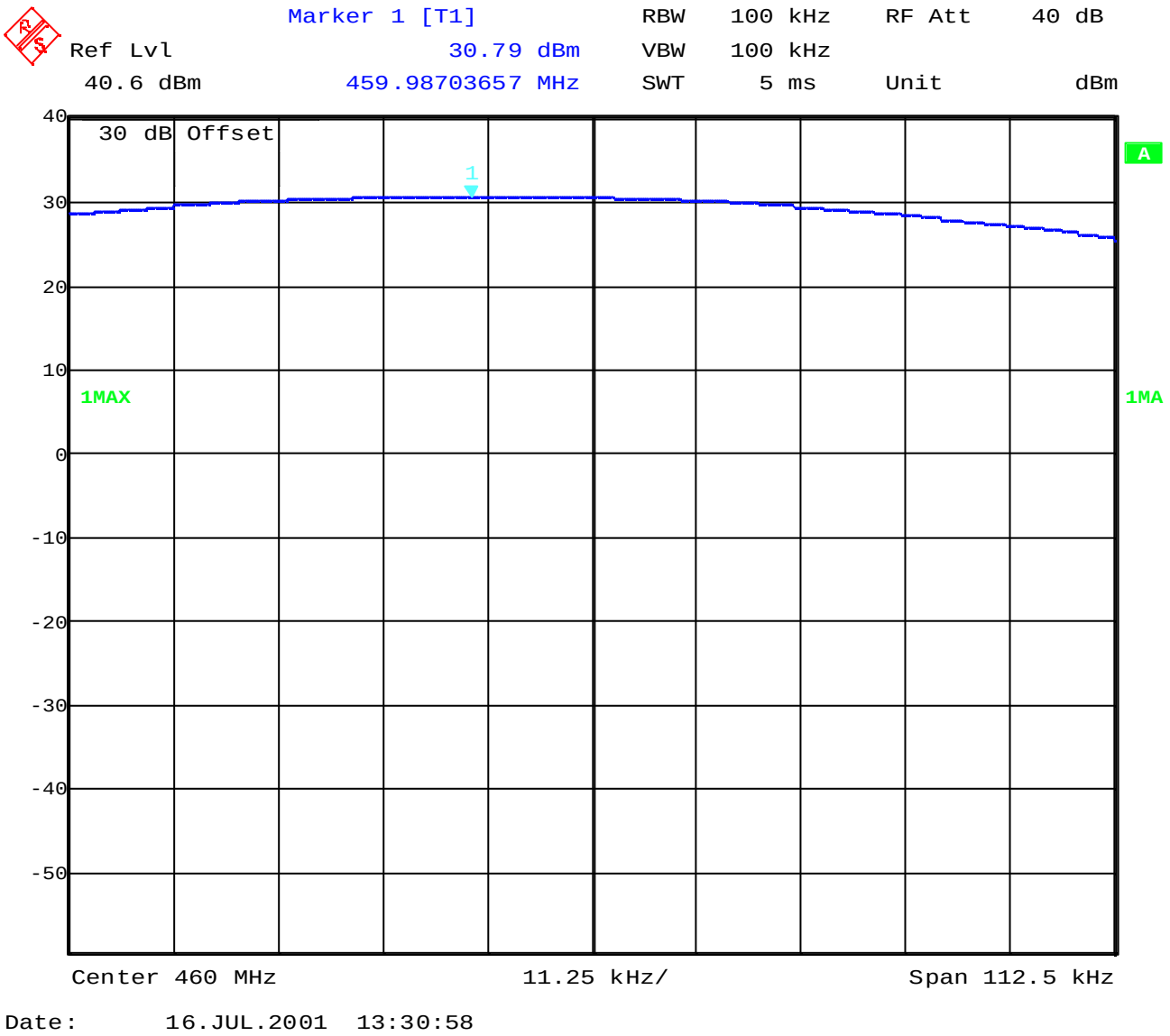
Peak output power (conducted)
450 MHz (min. power)



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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23°C
Relative humidity : 43%

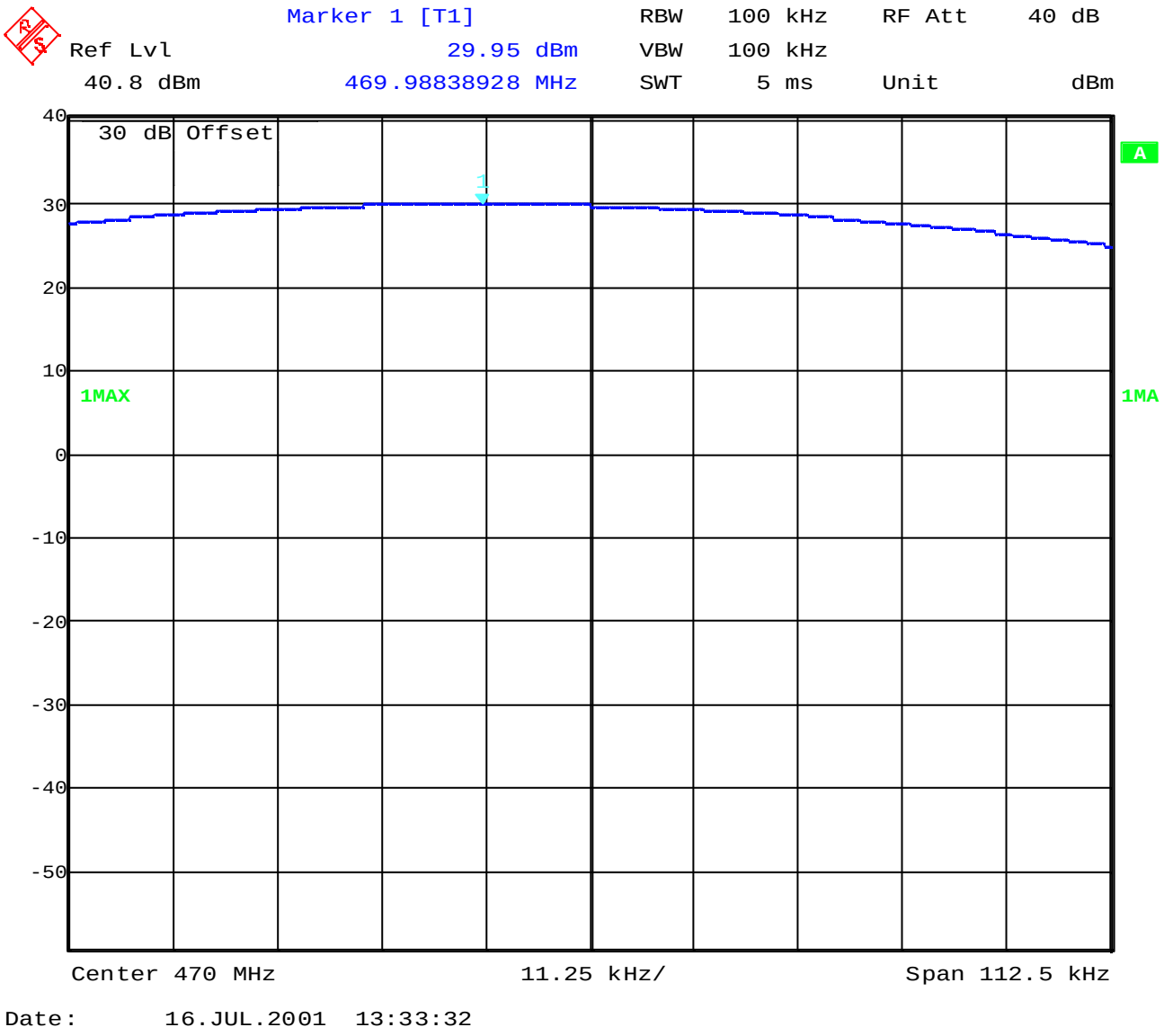
Peak output power (conducted)
460 MHz (min. power)



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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23°C
Relative humidity : 43%

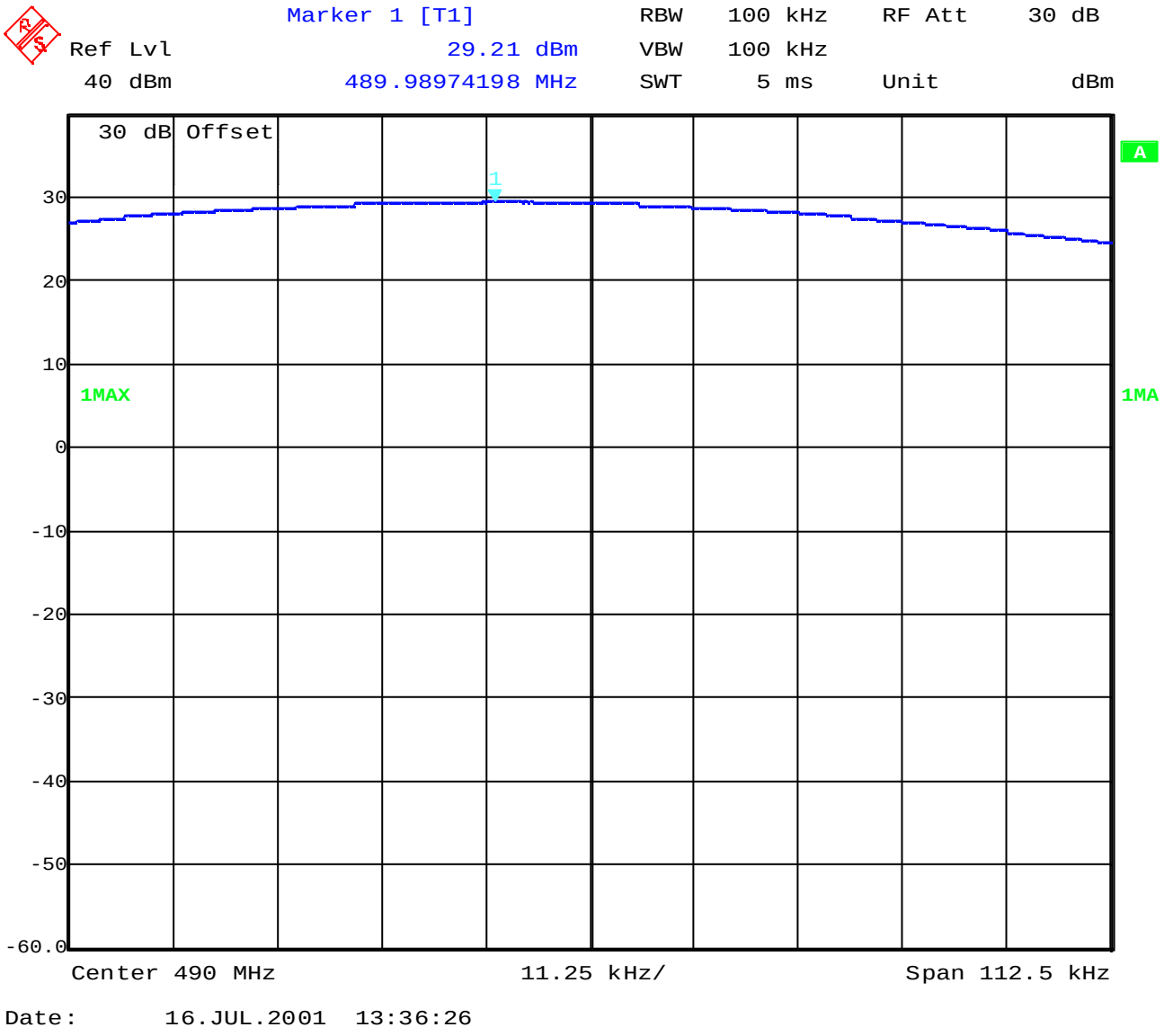
Peak output power (conducted)
470 MHz (min. power)



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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

Peak output power (conducted)
490 MHz (min. power)



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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

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
No peaks found					
Measurement uncertainty		± 3dB			

RBW : 100 kHz VBW: 1 MHz

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 :

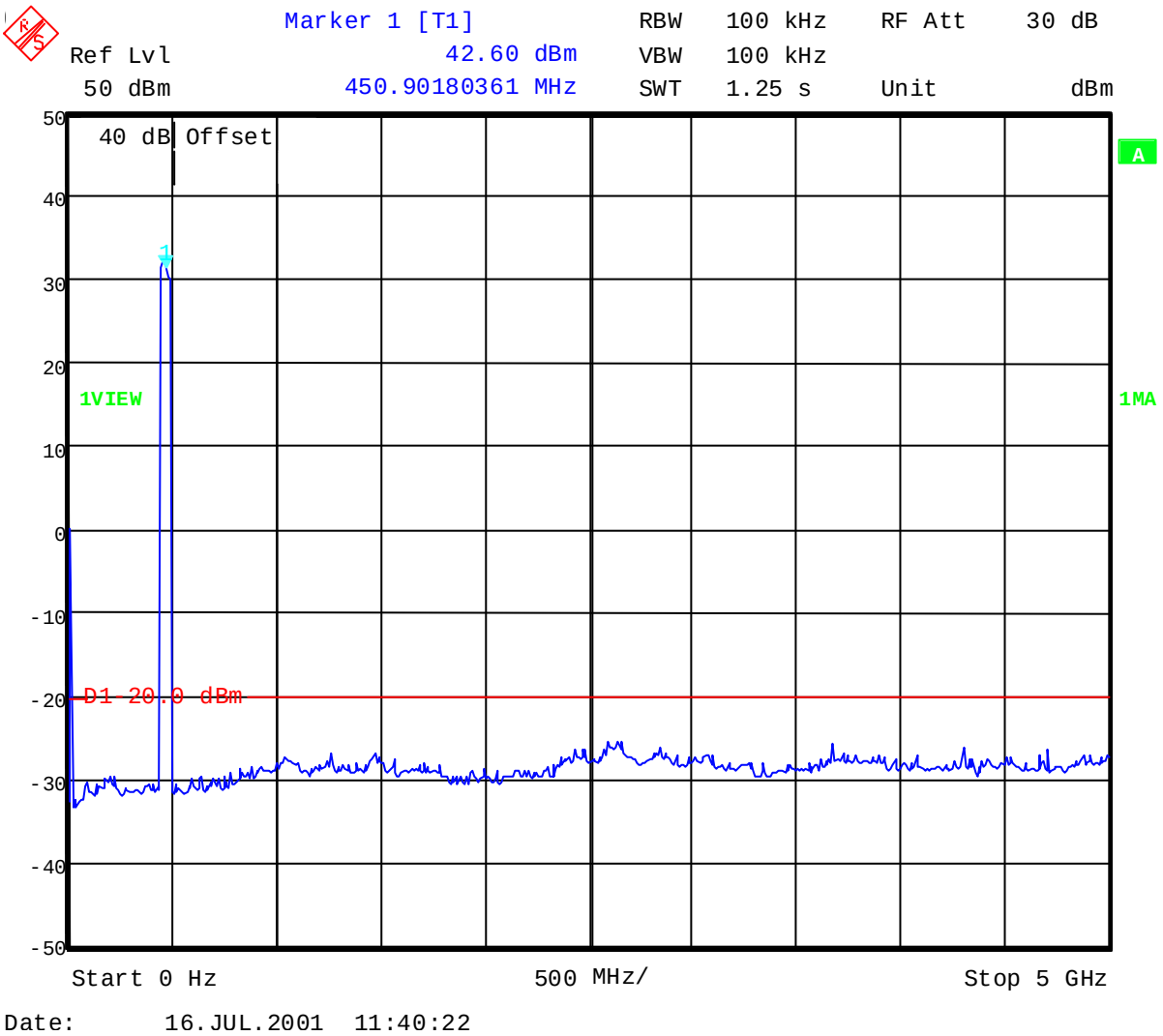
Spurious attenuation in dB = $50+10\log_{10}$ (Power output in watt)

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

Equipment under test : **MC9600 BS8 G2**
Ambient temperature : **23° C**
Relative humidity : **43%**

CONDUCTED SPURIOUS EMISSIONS § 2.991

Worst case measurement with 8 channels maximum power



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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

RADIATED SPURIOUS EMISSION §2.993

EMISSION LIMITATIONS					
f (MHz)	polari-zation	amplitude of emission (dBµV/m) QUASIPEAK	amplitude of emission (dBµV/m) average	limit max. allowed emmision power (dBµV/m)	results
CH 1 – CH8					
31.04	H	QP	27.8	40.0	Complies
31.04	V	QP	30.8	40.0	Complies
Measurement uncertainty		± 3dB			

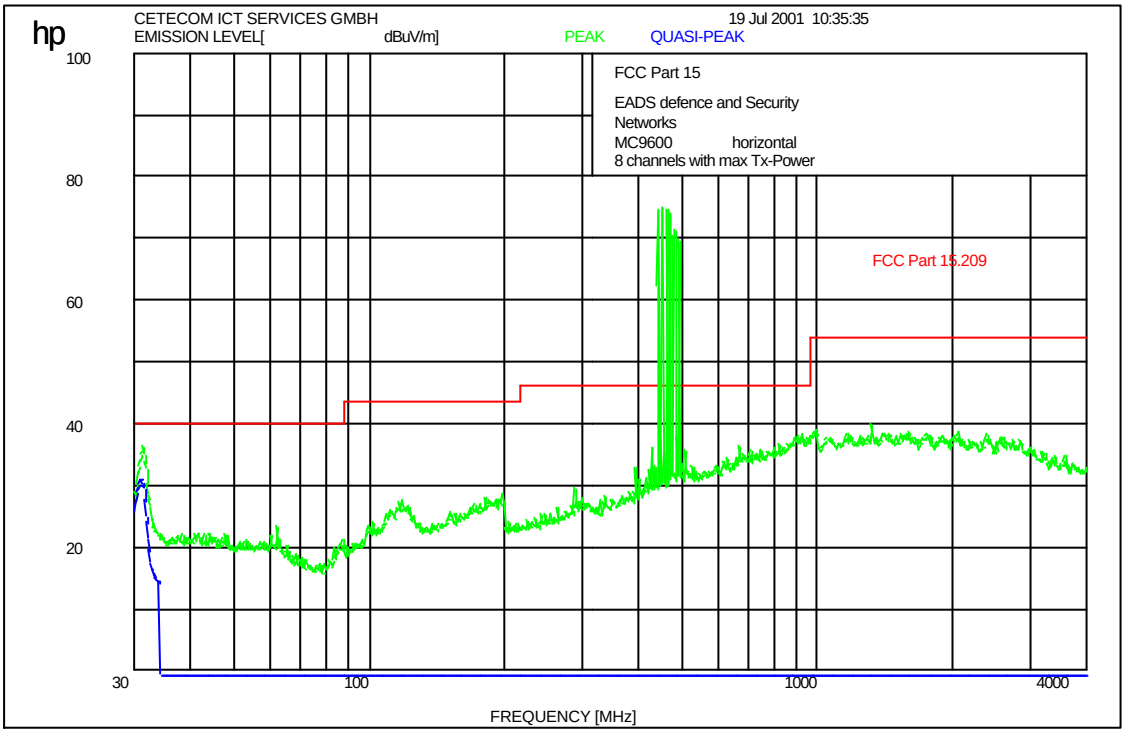
In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

RADIATED SPURIOUS EMISSIONS

Horizontal, 8 channels max power



f < 1 GHz : RBW/VBW: 100 kHz **f ³ 1GHz : RBW/VBW: 1 MHz**

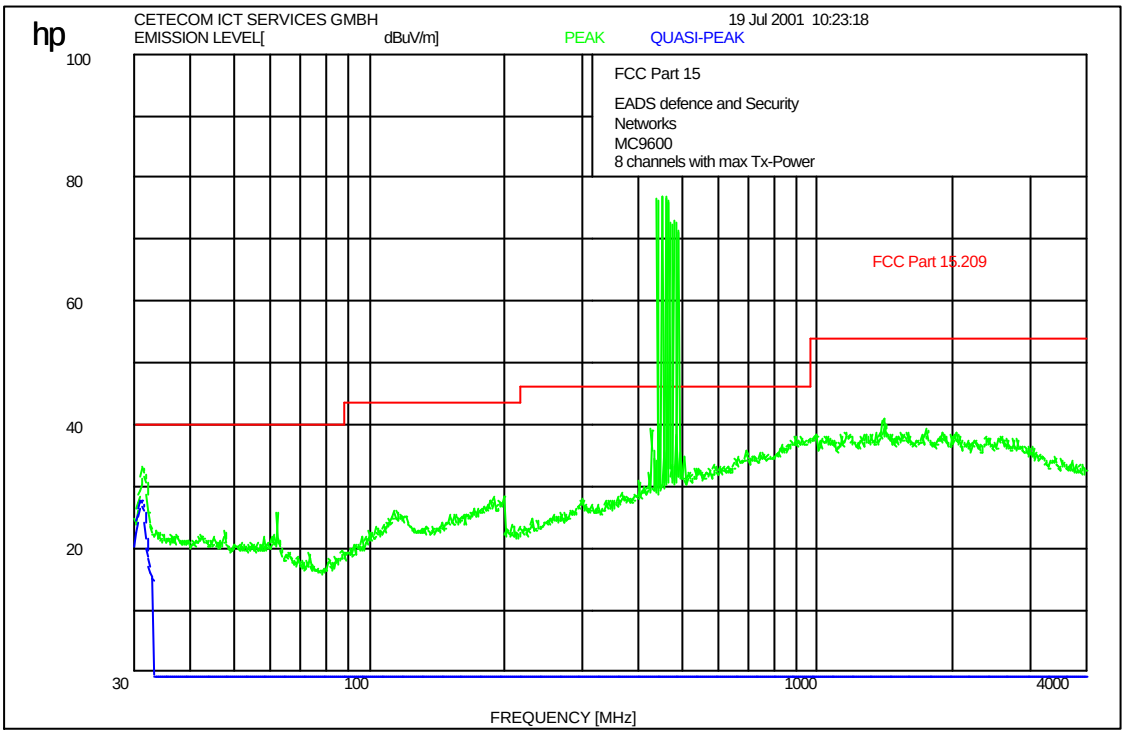
LIMITS **SUBCLAUSE § 15.209**

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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

RADIATED SPURIOUS EMISSIONS

Vertical, 8 channels max power



f < 1 GHz : RBW/VBW: 100 kHz **f ³ 1GHz : RBW/VBW: 1 MHz**

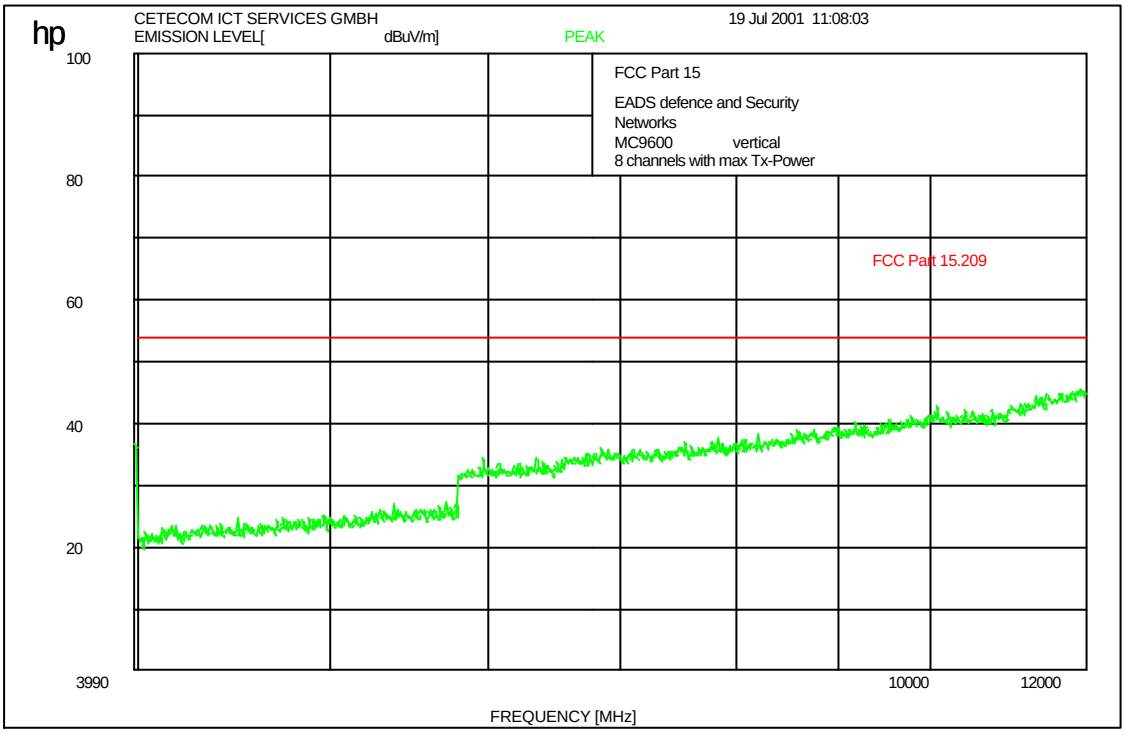
LIMITS **SUBCLAUSE § 15.209**

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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

RADIATED SPURIOUS EMISSIONS

Vertical / Horizontal, 8 channels max power



f < 1 GHz : RBW/VBW: 100 kHz **f ³ 1GHz : RBW/VBW: 1 MHz**

LIMITS **SUBCLAUSE § 15.209**

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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

FREQUENCY STABILITY Vs. TEMPERATURE § 2.995

Teperature [° C]	Frequency error [Hz]	Frequency [MHz]	Error in %	Error in ppm
-30°	19	440	0,000000432	0,0432
-20°	19	440	0,000000432	0,0432
-10°	19	440	0,000000432	0,0432
0,0°	19	440	0,000004318	0,0432
+10°	19	440	0,000004318	0,0432
+20°	20	440	0,000004545	0,0455
+30°	20	440	0,000004545	0,0455
+40°	20	440	0,000004545	0,0455
+50°	20	440	0,000004545	0,0455
+60°	20	440	0,000004545	0,0455

Teperature [° C]	Frequency error [Hz]	Frequency [MHz]	Error in %	Error in ppm
-30°	20	450	0,000000444	0,0444
-20°	20	450	0,000000444	0,0444
-10°	20	450	0,000000444	0,0444
0,0°	20	450	0,000004444	0,0444
+10°	20	450	0,000004444	0,0444
+20°	20	450	0,000004444	0,0444
+30°	20	450	0,000004444	0,0444
+40°	20	450	0,000004444	0,0444
+50°	20	450	0,000004444	0,0444
+60°	20	450	0,000000444	0,0444

Teperature [° C]	Frequency error [Hz]	Frequency [MHz]	Error in %	Error in ppm
-30°	20	460	0,000000435	0,0435
-20°	20	460	0,000000435	0,0435
-10°	20	460	0,000000435	0,0435
0,0°	20	460	0,000004348	0,0435
+10°	20	460	0,000004348	0,0435
+20°	20	460	0,000004348	0,0435
+30°	20	460	0,000004348	0,0435
+40°	21	460	0,000004565	0,0457
+50°	21	460	0,000004565	0,0457
+60°	21	460	0,000004565	0,0457

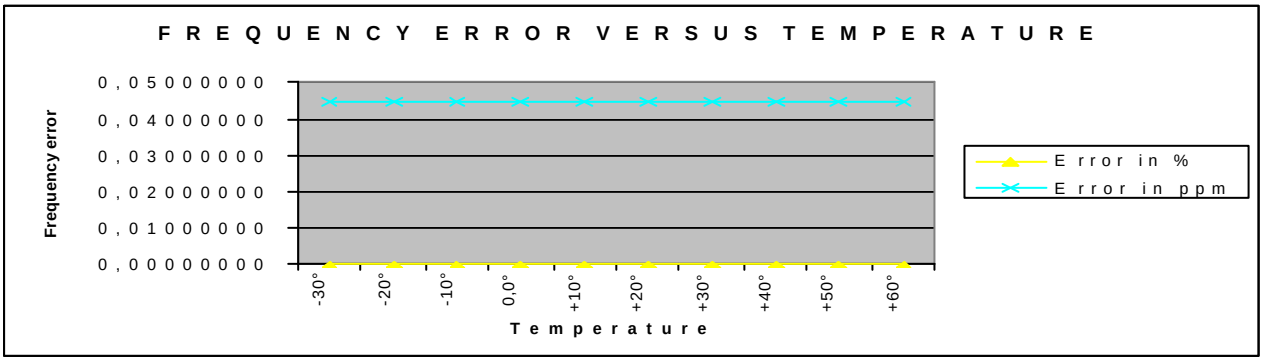
REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
64

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

FREQUENCY STABILITY Vs. TEMPERATURE § 2.995

Teperature [° C]	Frequency error [Hz]	Frequency [MHz]	Error in %	Error in ppm
-30°	21	470	0,000000447	0,0447
-20°	21	470	0,000000447	0,0447
-10°	21	470	0,000000447	0,0447
0,0°	21	470	0,000004468	0,0447
+10°	21	470	0,000004468	0,0447
+20°	21	470	0,000004468	0,0447
+30°	21	470	0,000004468	0,0447
+40°	22	470	0,000004681	0,0468
+50°	22	470	0,000004681	0,0468
+60°	22	470	0,000004681	0,0468

Teperature [° C]	Frequency error [Hz]	Frequency [MHz]	Error in %	Error in ppm
-30°	22	490	0,000000449	0,0449
-20°	22	490	0,000000449	0,0449
-10°	22	490	0,000000449	0,0449
0,0°	22	490	0,000004490	0,0449
+10°	22	490	0,000004490	0,0449
+20°	22	490	0,000004490	0,0449
+30°	22	490	0,000004490	0,0449
+40°	22	490	0,000004490	0,0449
+50°	22	490	0,000004490	0,0449
+60°	22	490	0,000004490	0,0449



LIMITS **SUBCLAUSE § 90.213**

Temperature – Frequency Stability of 0.0005% from –30 to +60 °C

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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

FREQUENCY STABILITY Vs. VOLTAGE § 2.991

nom. Voltage	nom. Voltage	Voltage [V]	Frequency error [Hz]	Frequency [MHz]	Error in %	Error in ppm
0,85	48	40,80	20	440	0,00000045	0,0455
0,88		42,24	20	440	0,00000045	0,0455
0,90		43,20	20	440	0,00000045	0,0455
0,93		44,64	20	440	0,00000045	0,0455
0,95		45,60	20	440	0,00000045	0,0455
0,98		47,04	20	440	0,00000045	0,0455
1,00		48,00	20	440	0,00000045	0,0455
1,03		49,44	20	440	0,00000045	0,0455
1,05		50,40	20	440	0,00000045	0,0455
1,08		51,84	20	440	0,00000045	0,0455
1,10		52,80	20	440	0,00000045	0,0455
1,13		54,24	20	440	0,00000045	0,0455
1,15		55,20	20	440	0,00000045	0,0455

nom. Voltage	nom. Voltage	Voltage [V]	Frequency error [Hz]	Frequency [MHz]	Error in %	Error in ppm
0,85	48	40,80	20	450	0,00000044	0,0444
0,88		42,24	20	450	0,00000044	0,0444
0,90		43,20	20	450	0,00000044	0,0444
0,93		44,64	20	450	0,00000044	0,0444
0,95		45,60	20	450	0,00000044	0,0444
0,98		47,04	20	450	0,00000044	0,0444
1,00		48,00	20	450	0,00000044	0,0444
1,03		49,44	20	450	0,00000044	0,0444
1,05		50,40	20	450	0,00000044	0,0444
1,08		51,84	20	450	0,00000044	0,0444
1,10		52,80	20	450	0,00000044	0,0444
1,13		54,24	20	450	0,00000044	0,0444
1,15		55,20	20	450	0,00000044	0,0444

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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

FREQUENCY STABILITY Vs. VOLTAGE § 2.991

nom. Voltage	nom. Voltage	Voltage [V]	Frequency error [Hz]	Frequency [MHz]	Error in %	Error in ppm
0,85	48	40,80	20	460	0,00000043	0,0435
0,88		42,24	20	460	0,00000043	0,0435
0,90		43,20	20	460	0,00000043	0,0435
0,93		44,64	20	460	0,00000043	0,0435
0,95		45,60	20	460	0,00000043	0,0435
0,98		47,04	20	460	0,00000043	0,0435
1,00		48,00	20	460	0,00000043	0,0435
1,03		49,44	20	460	0,00000043	0,0435
1,05		50,40	20	460	0,00000043	0,0435
1,08		51,84	20	460	0,00000043	0,0435
1,10		52,80	20	460	0,00000043	0,0435
1,13		54,24	21	460	0,00000046	0,0457
1,15		55,20	21	460	0,00000046	0,0457

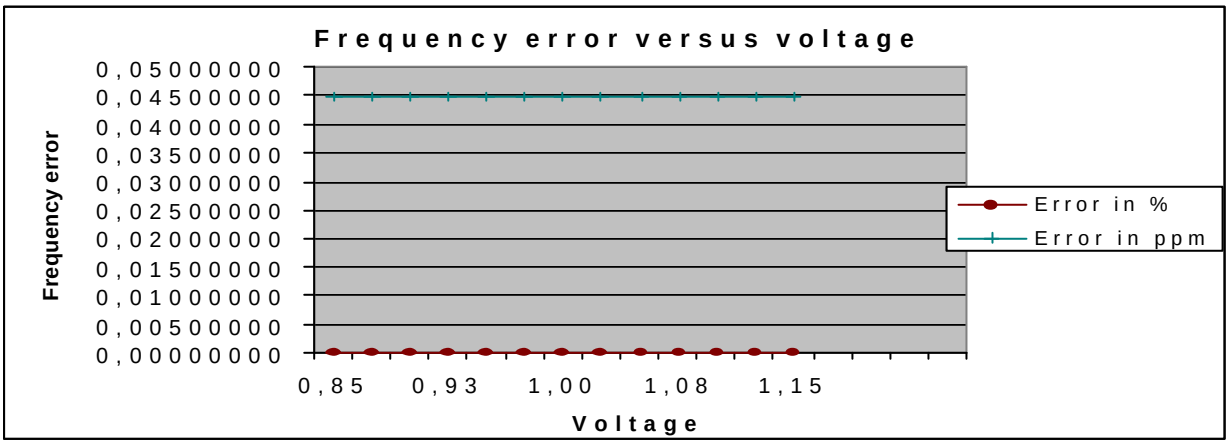
nom. Voltage	nom. Voltage	Voltage [V]	Frequency error [Hz]	Frequency [MHz]	Error in %	Error in ppm
0,85	48	40,80	21	470	0,00000045	0,0447
0,88		42,24	21	470	0,00000045	0,0447
0,90		43,20	21	470	0,00000045	0,0447
0,93		44,64	21	470	0,00000045	0,0447
0,95		45,60	21	470	0,00000045	0,0447
0,98		47,04	21	470	0,00000045	0,0447
1,00		48,00	21	470	0,00000045	0,0447
1,03		49,44	21	470	0,00000045	0,0447
1,05		50,40	21	470	0,00000045	0,0447
1,08		51,84	21	470	0,00000045	0,0447
1,10		52,80	21	470	0,00000045	0,0447
1,13		54,24	21	470	0,00000045	0,0447
1,15		55,20	21	470	0,00000045	0,0447

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

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

FREQUENCY STABILITY Vs. VOLTAGE § 2.991

nom. Voltage	nom. Voltage	Voltage [V]	Frequency error [Hz]	Frequency [MHz]	Error in %	Error in ppm
0,85	48	40,80	22	490	0,00000045	0,0449
0,88		42,24	22	490	0,00000045	0,0449
0,90		43,20	22	490	0,00000045	0,0449
0,93		44,64	22	490	0,00000045	0,0449
0,95		45,60	22	490	0,00000045	0,0449
0,98		47,04	22	490	0,00000045	0,0449
1,00		48,00	22	490	0,00000045	0,0449
1,03		49,44	22	490	0,00000045	0,0449
1,05		50,40	22	490	0,00000045	0,0449
1,08		51,84	22	490	0,00000045	0,0449
1,10		52,80	22	490	0,00000045	0,0449
1,13		54,24	22	490	0,00000045	0,0449
1,15		55,20	22	490	0,00000045	0,0449



LIMITS **SUBCLAUSE § 90.213**

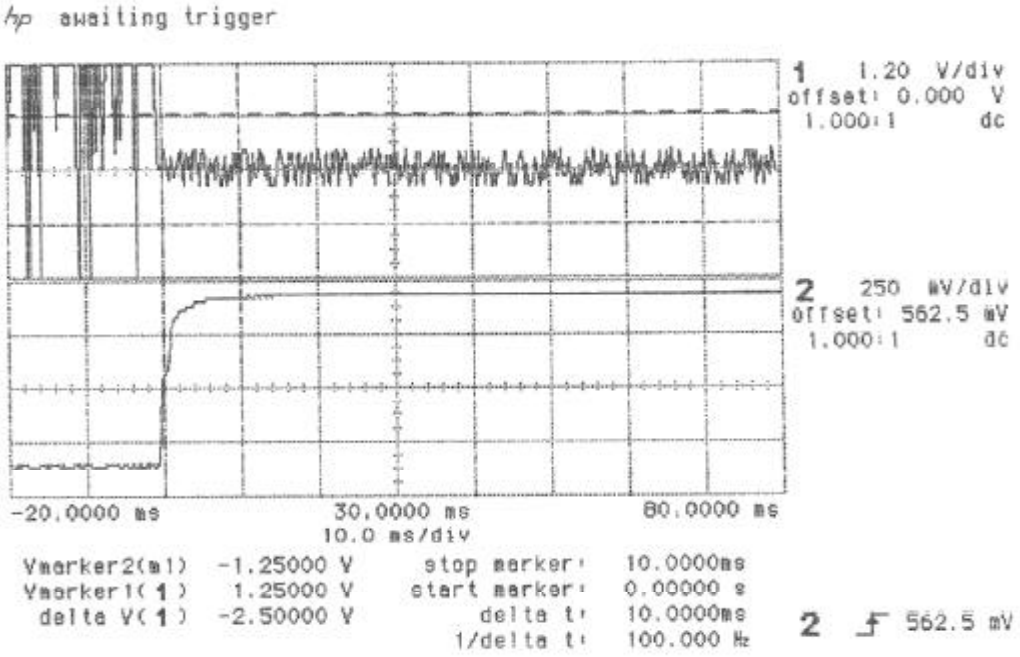
Power Supply Voltage – Frequency Stability of 0.0005% from 85% to 115% of nominal voltage

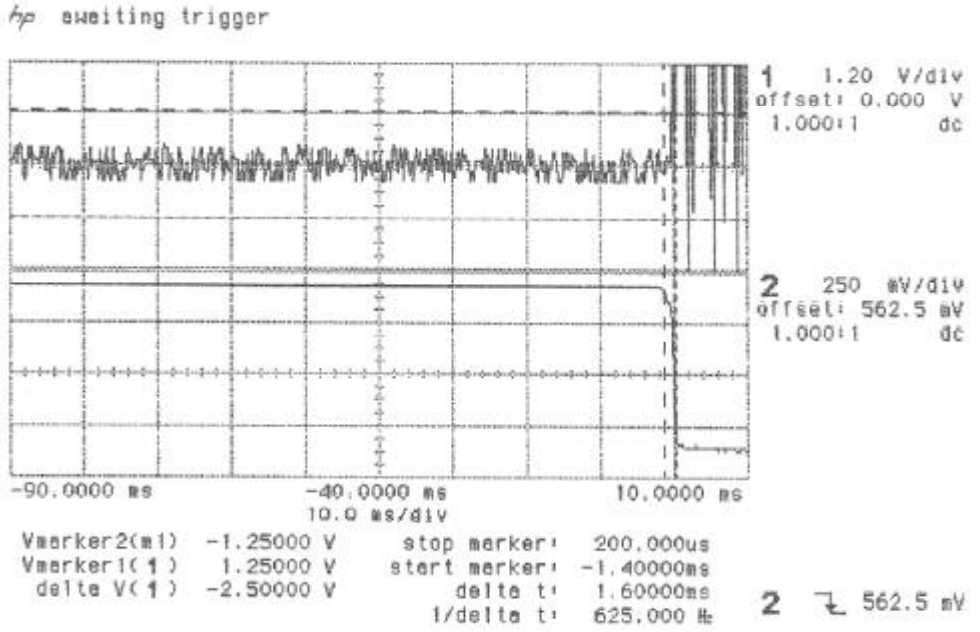
REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
64

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

TRANSIENT FREQUENCY BEHAVIOR §90.214

440 MHz

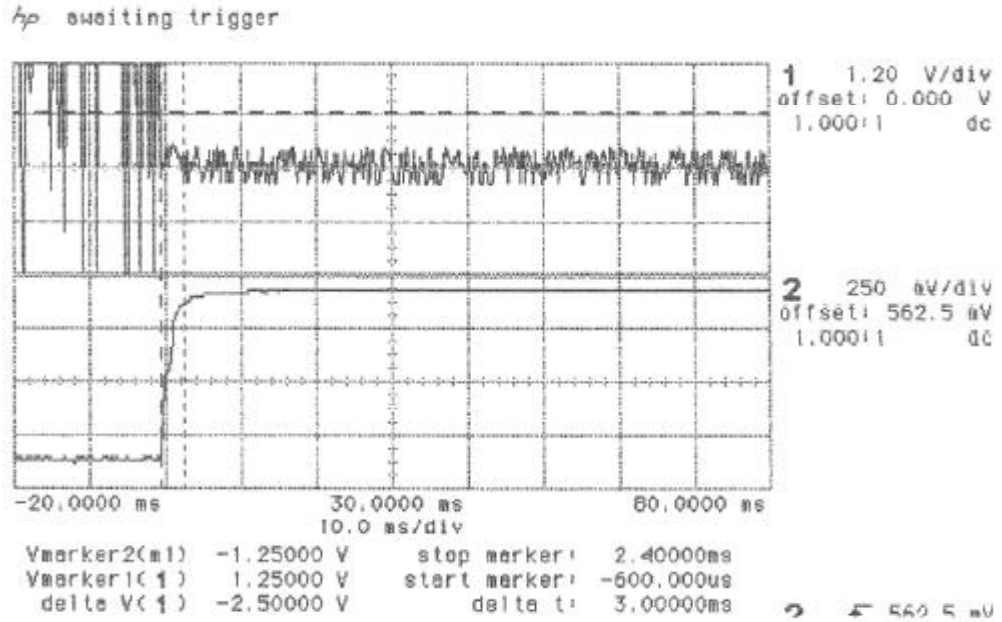


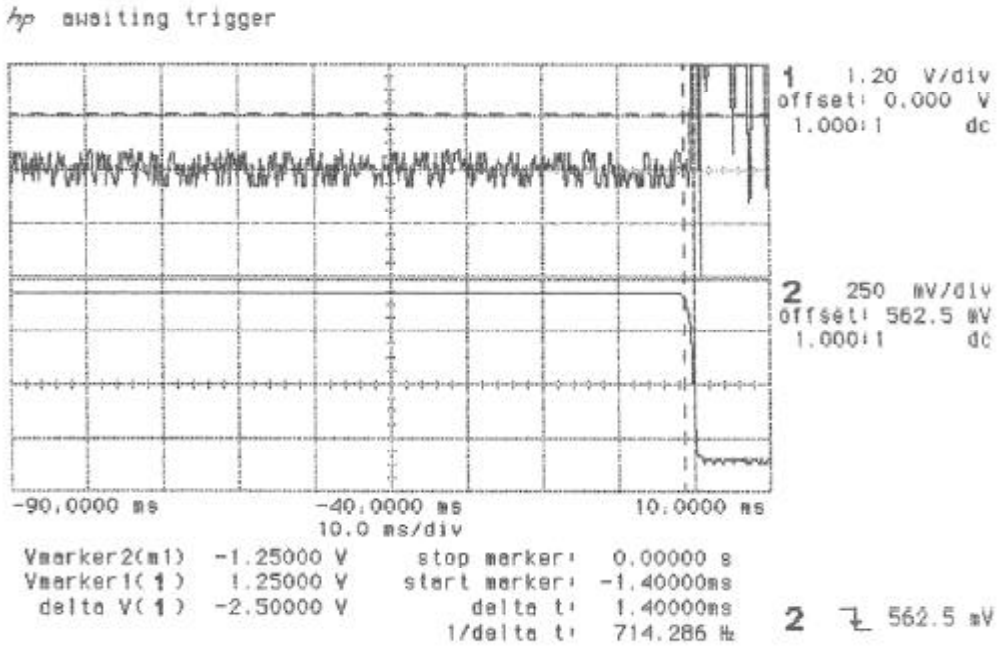


REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
07, 64 , 66 -68

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

TRANSIENT FREQUENCY BEHAVIOR §90.214
450 MHz

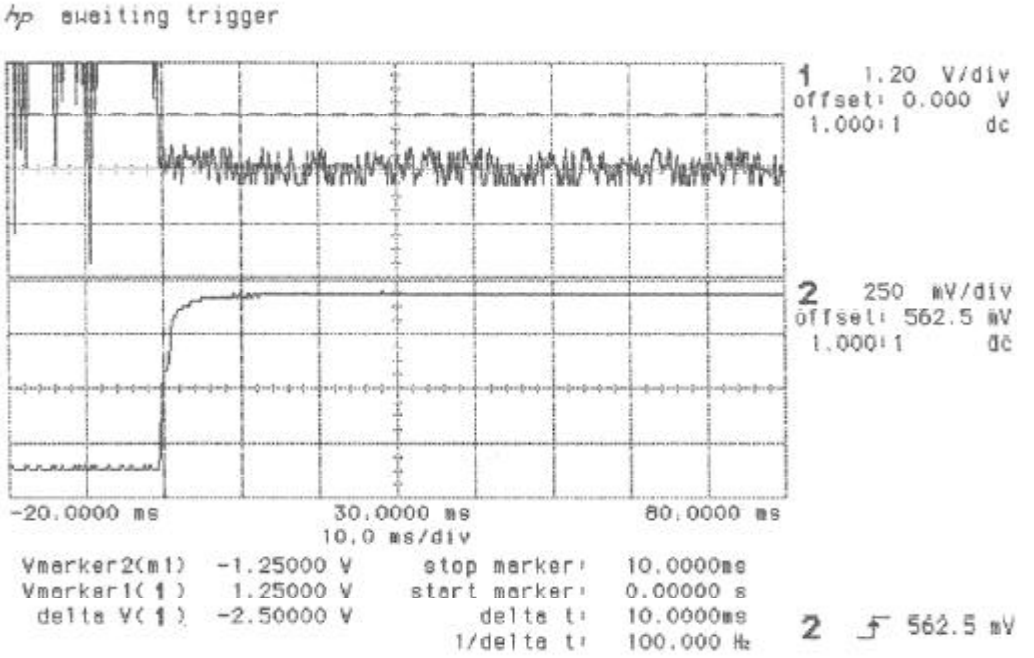


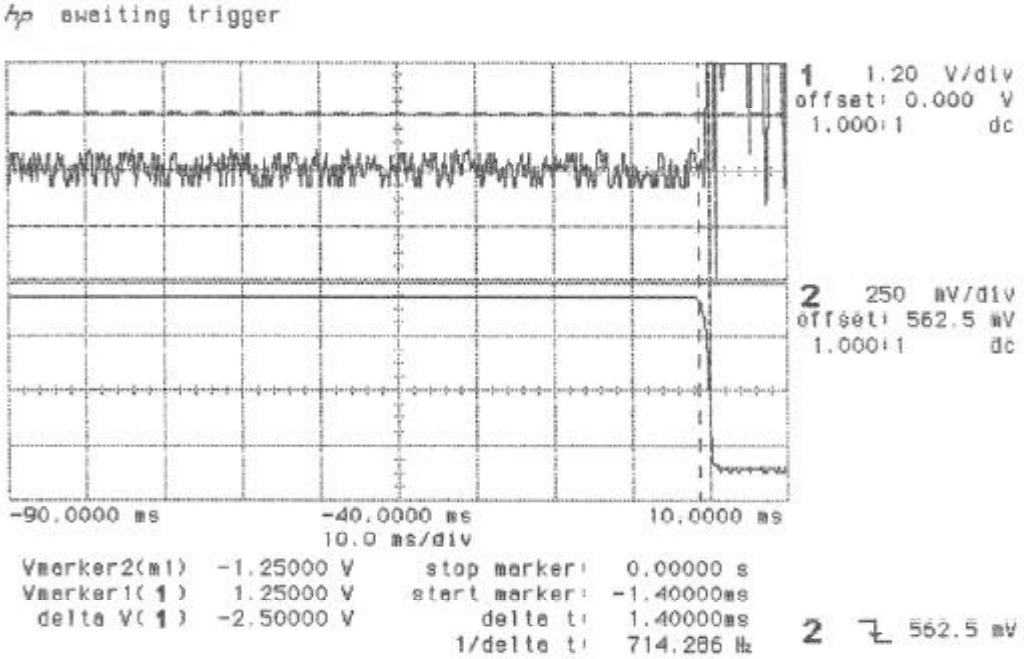


REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
07, 64 , 66 -68

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

TRANSIENT FREQUENCY BEHAVIOR §90.214
460 MHz



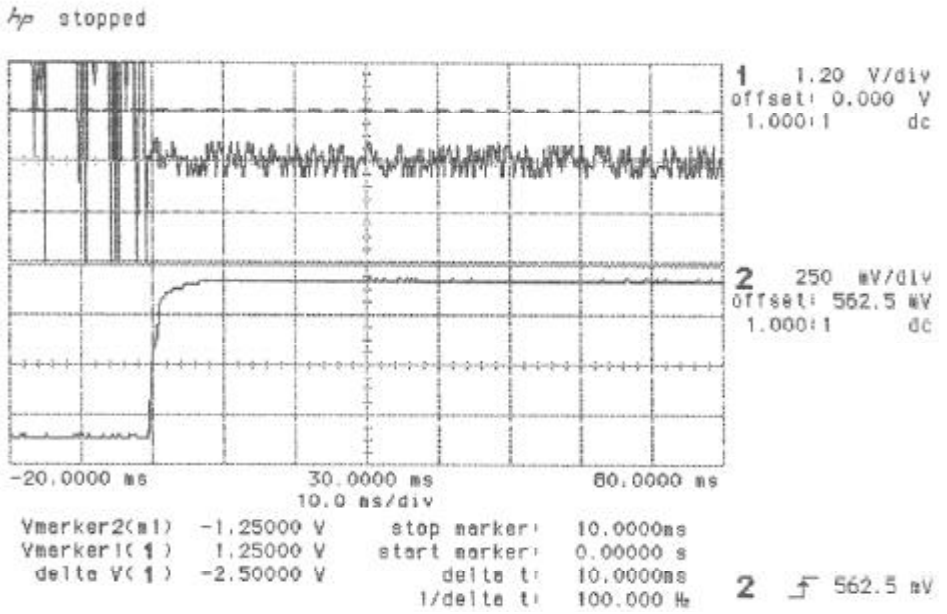


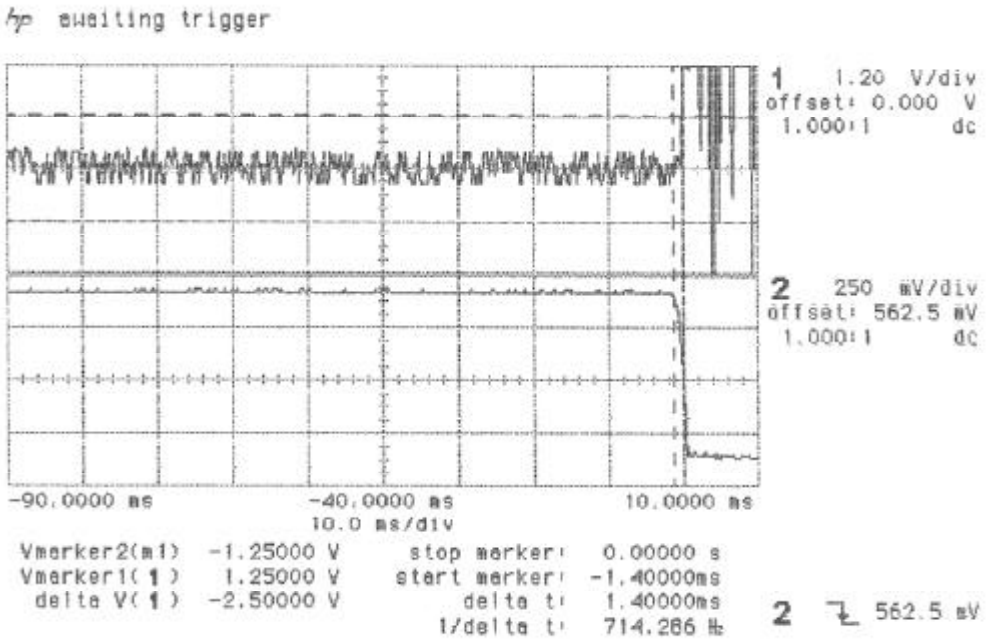
REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
07, 64 , 66 -68

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

TRANSIENT FREQUENCY BEHAVIOR §90.214

470 MHz



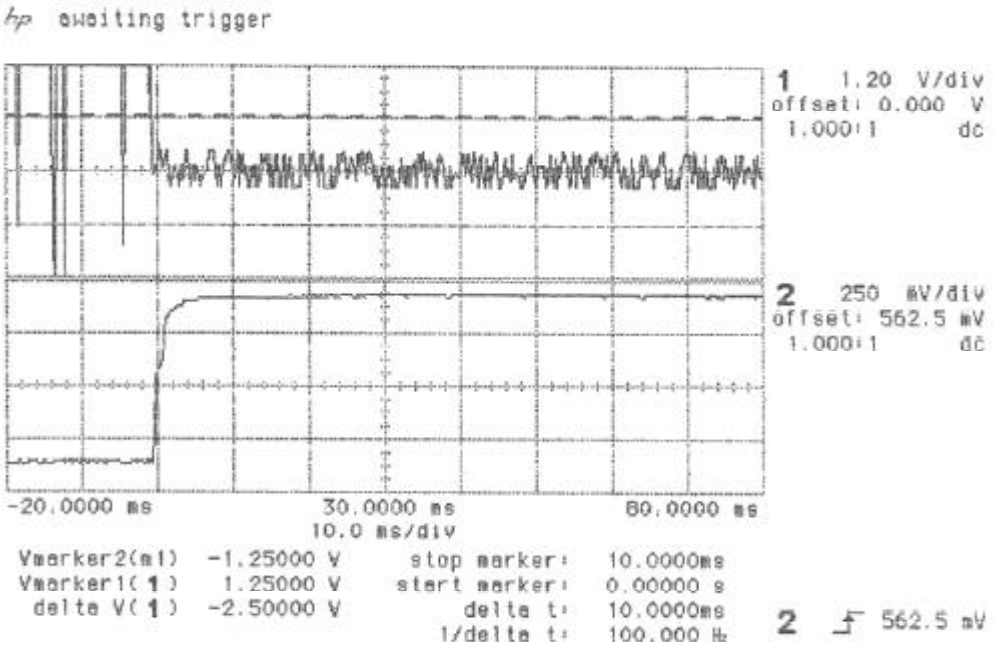


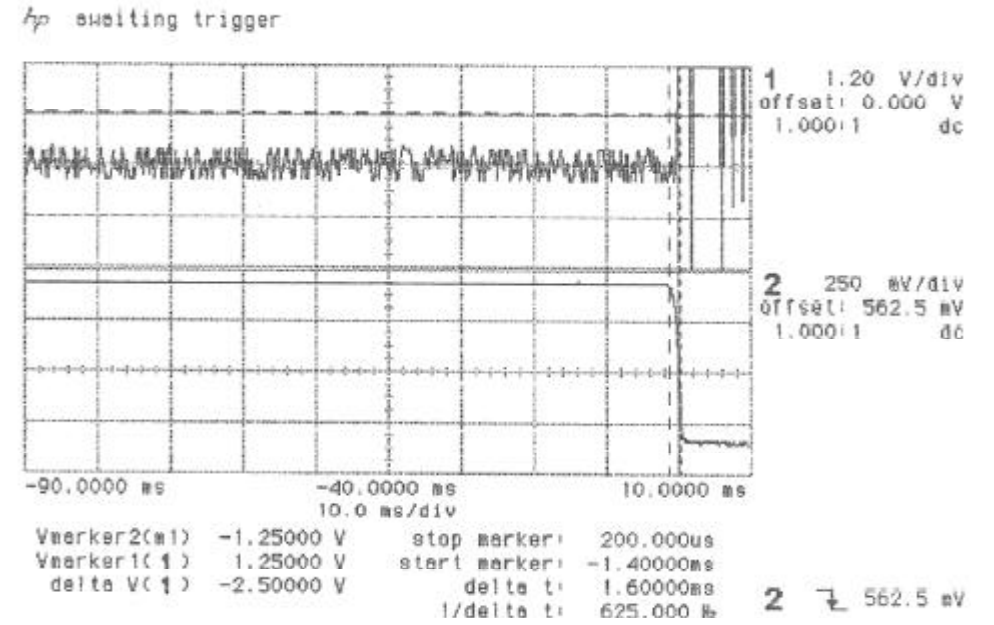
REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)
07, 64 , 66 -68

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

TRANSIENT FREQUENCY BEHAVIOR §90.214

490 MHz





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

Equipment under test : **MC9600 BS8 G2**
Ambient temperature : **23° C**
Relative humidity : **43%**

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 : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

RECEIVER SPURIOUS RADIATION § 15.209
Radiated

SPURIOUS EMISSIONS LEVEL (µV/m)								
CH 1 – CH 8								
f (MHz)	Detector Polarisation	Level (µV/m)	f (MHz)	Detector	Level (µV/m)	f (MHz)	Detector	Level (µV/m)
31.8	QP / H	31.5						
31.5	QP / V	28.7						
456.59	QP / H	38.6						
456.59	QP / V	38.0						
Measurement uncertainty			±3 dB					

f < 1 GHz : RBW/VBW: 100 kHz f ³ 1GHz : RBW/VBW: 1 MHz

Measurement distance see table

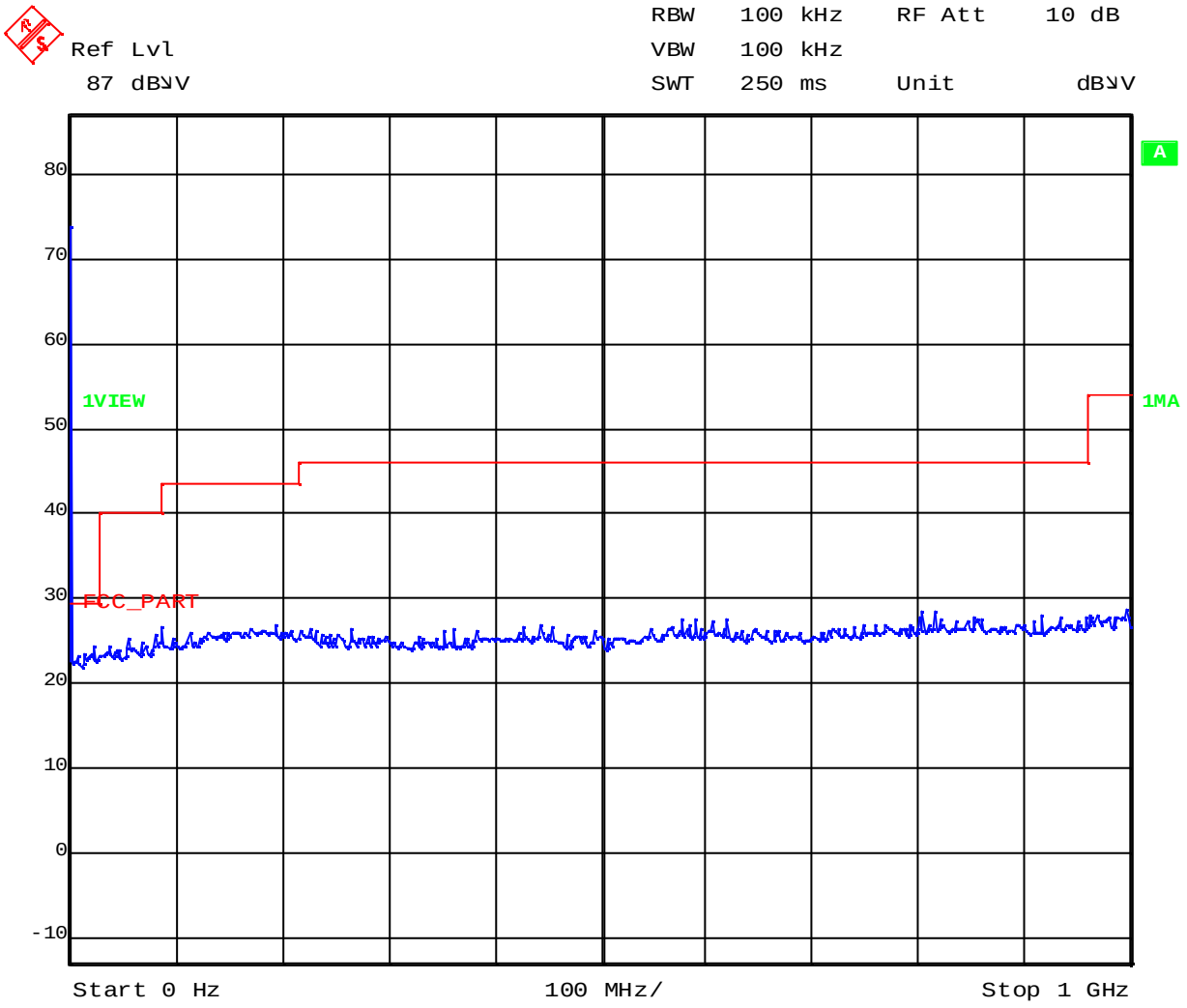
Limits SUBCLAUSE § 15.209

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 : **MC9600 BS8 G2**
Ambient temperature : **23° C**
Relative humidity : **43%**

RECEIVER SPURIOUS EMISSIONS (conducted) § 15.209



Date: 16.JUL.2001 12:48:36

f < 1 GHz : RBW/VBW: 100 kHz **f ³ 1GHz : RBW/VBW: 1 MHz**

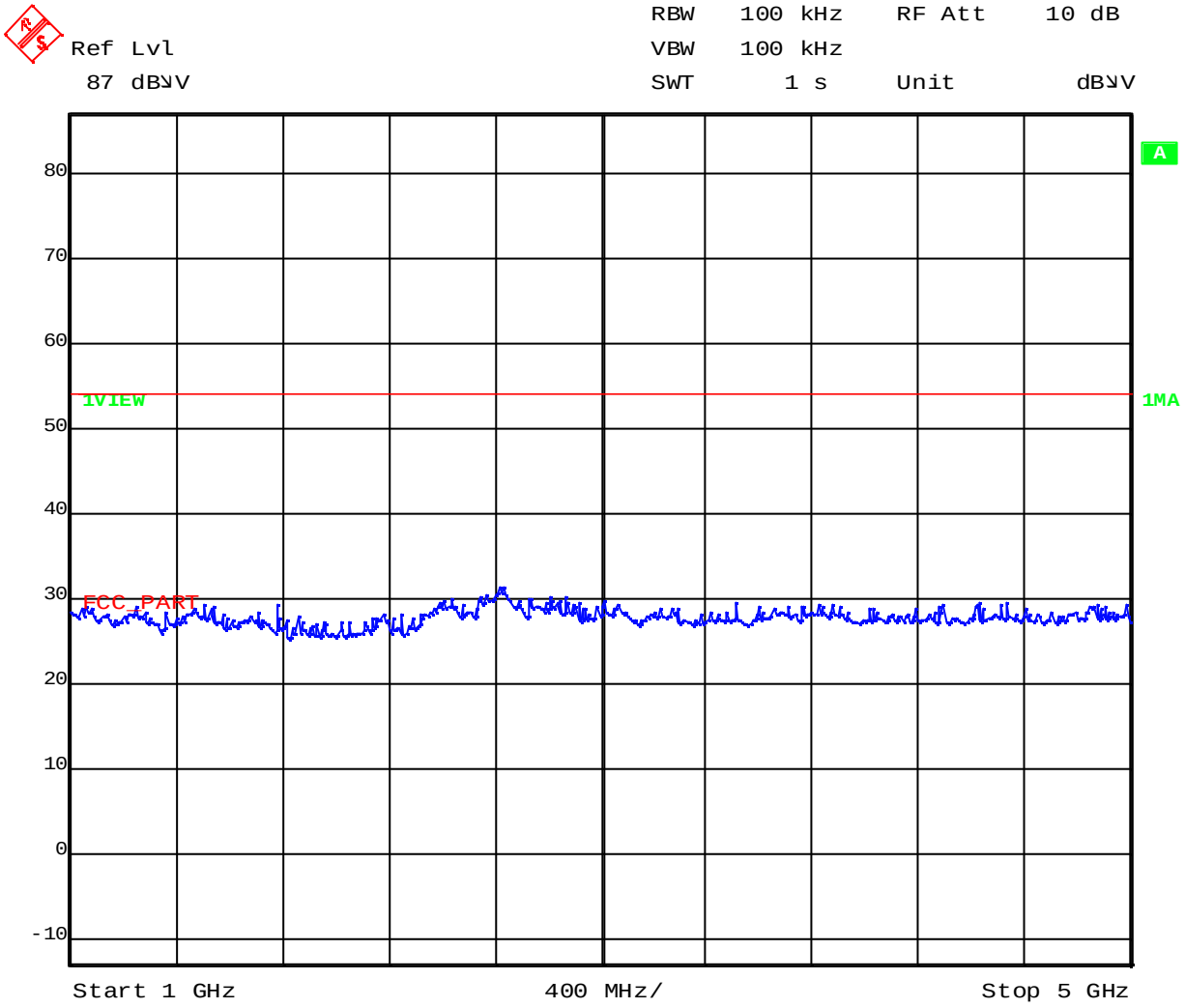
Limits SUBCLAUSE § 15.209

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)
64

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

RECEIVER SPURIOUS EMISSIONS (conducted) § 15.209



Date: 16.JUL.2001 12:49:17

f < 1 GHz : RBW/VBW: 100 kHz **f ³ 1GHz : RBW/VBW: 1 MHz**

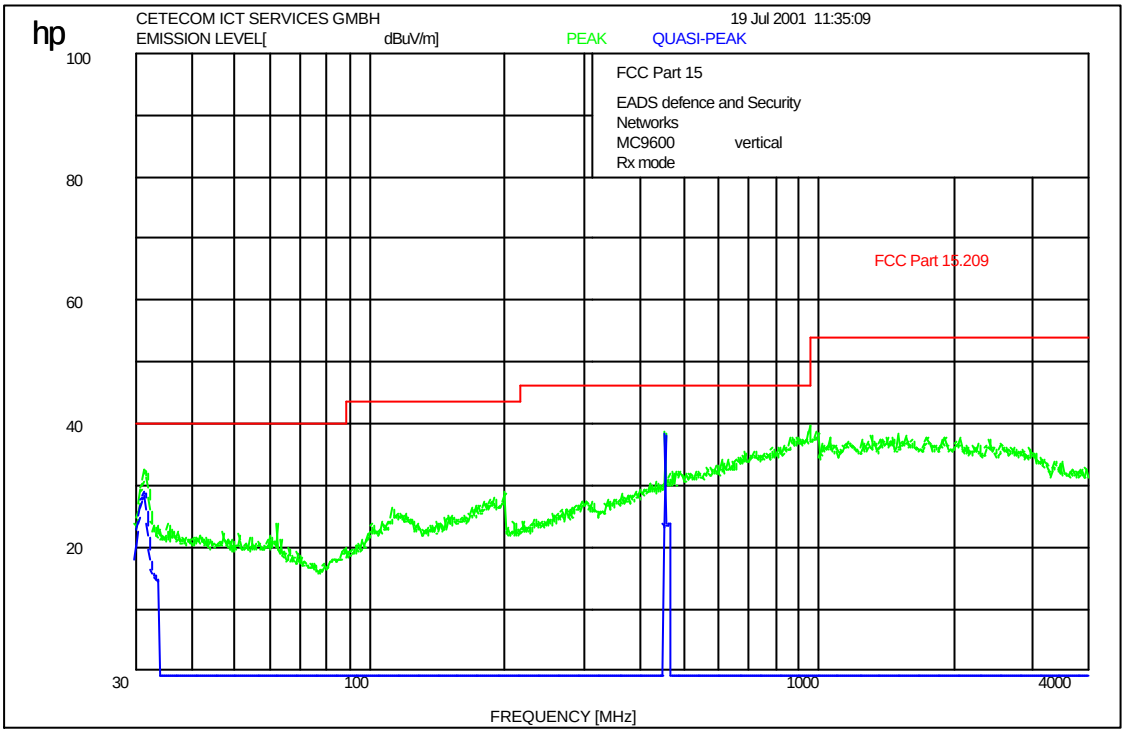
Limits SUBCLAUSE § 15.209

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)
64

Equipment under test : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

RECEIVER SPURIOUS RADIATION § 15.209



f < 1 GHz : RBW/VBW: 100 kHz **f ³ 1GHz : RBW/VBW: 1 MHz**

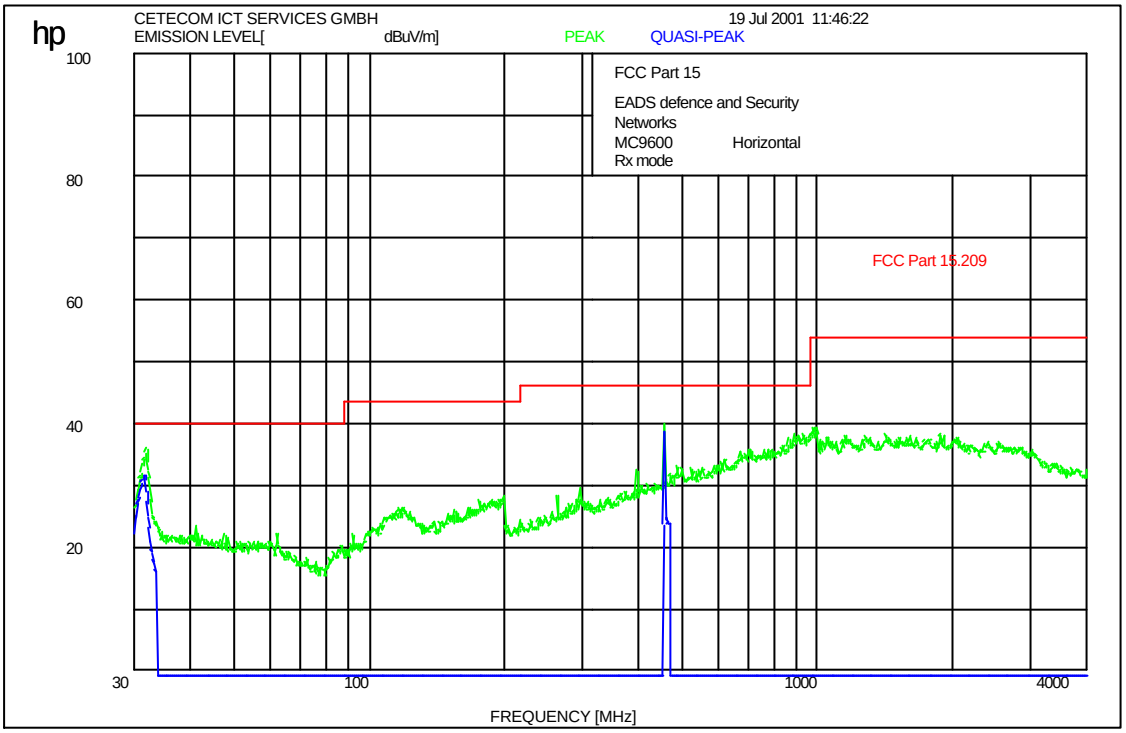
Limits **SUBCLAUSE § 15.209**

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 : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

RECEIVER SPURIOUS RADIATION § 15.209



f < 1 GHz : RBW/VBW: 100 kHz **f ³ 1GHz : RBW/VBW: 1 MHz**

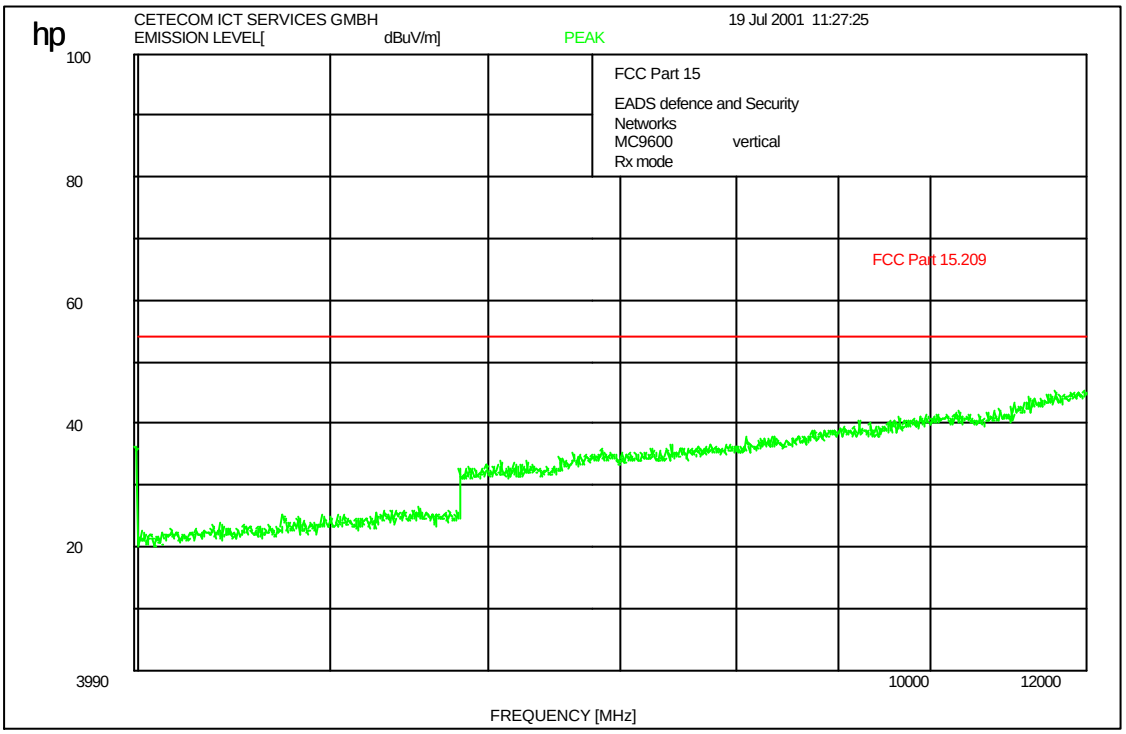
Limits **SUBCLAUSE § 15.209**

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 : MC9600 BS8 G2
Ambient temperature : 23° C
Relative humidity : 43%

RECEIVER SPURIOUS RADIATION § 15.209



f < 1 GHz : RBW/VBW: 100 kHz **f ³ 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

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

Photographs of the equipment