FCC TEST REPORT

REPORT NO.: RF920318R02
MODEL NO.: BTM010
RECEIVED: Mar. 18, 2003
TESTED: Mar. 21 ~ Mar. 27, 2003

APPLICANT: ASKEY COMPUTER CORP.

ADDRESS: 10F, 119, CHIENKANG RD., CHUNG-HO, TAIPEI, TAIWAN, 235, R.O.C.

ISSUED BY: Advance Data Technology Corporation

LAB LOCATION: 47 14th Lin, Chiapau Tsun, Linko, Taipei, Taiwan, R.O.C.

0528
ILAC MRA

Lab Code: 200102-0

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1 CERTIFICATION

PRODUCT :	BLUETOOTH MODEM
BRAND NAME :	Askey
MODEL NO. :	BTM010
APPLICANT :	ASKEY COMPUTER CORP.
STANDARDS :	47 CFR Part 15, Subpart C (Section 15.247), ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from Mar. 17 ~ Mar. 27, 2003. The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions herein specified.

CHECKED BY: Demi Chen, **DATE:** April 19, 2003

Demi Chen

APPROVED BY: for, **DATE:** April 19, 2003

Dr. Alan Lane

Manager

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: 47 CFR Part 15, Subpart C			
Standard Section	**Test Type and Limit**	**Result**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit Minimum passing margin is –14.61dBuV at 2.633 MHz
15.247(a)(1)(I)-(ii)	Number of Hopping Frequency Used Spec.: At least 75 channels	PASS	Meet the requirement of limit
15.247(a)(1)(ii)	Dwell Time on Each Channel Spec. : Max. 0.4 second within 30 second	PASS	Meet the requirement of limit
15.247(a)(1)(I)-(ii)	Hopping Channel Separation Spec. : Min. 25 kHz or 20 dB bandwidth	PASS	Meet the requirement of limit
15.247(a)(2)	Spectrum Bandwidth of a Frequency Hopping Sequence Spread Spectrum System Spec.: Max. 1 MHz	PASS	Meet the requirement of limit
15.247(b)	Maximum Peak Output Power Spec.: max. 30dBm	PASS	Meet the requirement of limit
15.247(c)	Transmitter Radiated Emissions Spec.: Table 15.209	PASS	Meet the requirement of limit Minimum passing margin is –8.20dBuV at 152.51MHz
15.247(c)	Band Edge Measurement	PASS	Meet the requirement of limit

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	BLUETOOTH MODEM
MODEL NO.	BTM010
POWER SUPPLY	5.0VDC from host equipment
MODULATION TYPE	FHSS (GFSK)
FREQUENCY RANGE	2402MHz ~ 2480MHz
NUMBER OF CHANNEL	79
OUTPUT POWER	4.08dBm
ANTENNA TYPE	Dipole Antenna
ANTENNA GAIN	1dBi
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

For a more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

The software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel frequencies individually.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a BLUETOOTH MODEM. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 15, Subpart C. (15.247)
ANSI C63.4 : 1992

All tests have been performed and recorded as per the above standards.

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	TELEPHONE	Daisho	DS-03	2224378	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1.2 m nonshielded telephone wire, terminated with RJ11 connector, w/o core.

NOTE: All power cords of the above support units are non shielded (1.8m).

4 TEST PROCEDURES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

Notes:

1. The lower limit shall apply at the transition frequencies.
2. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS30	834115/016	Mar. 02, 2004
ROHDE & SCHWARZ Artificial Mains Network (For EUT)	ESH2-Z5	892107/003	July 10, 2003
* ROHDE & SCHWARZ 4-wire ISN	ENY41	838119/028	Nov. 29, 2003
* ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/018	Nov. 29, 2003
EMCO L.I.S.N. (For peripherals)	3825/2	9504-2359	July 10, 2003
Software	Cond-V2M1	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C03.01	July 11, 2003
Terminator (For EMCO LISN)	NA	E1-01-300	Feb. 23, 2004
Terminator (For EMCO LISN)	NA	E1-01-301	Feb. 23, 2004

NOTE: 1.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. "*": These equipment are used for conducted telecom port test only (if tested).
3. The test was performed in ADT Shielded Room No. 3.
4. The VCCI Site Registration No. is C-274.

4.1.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

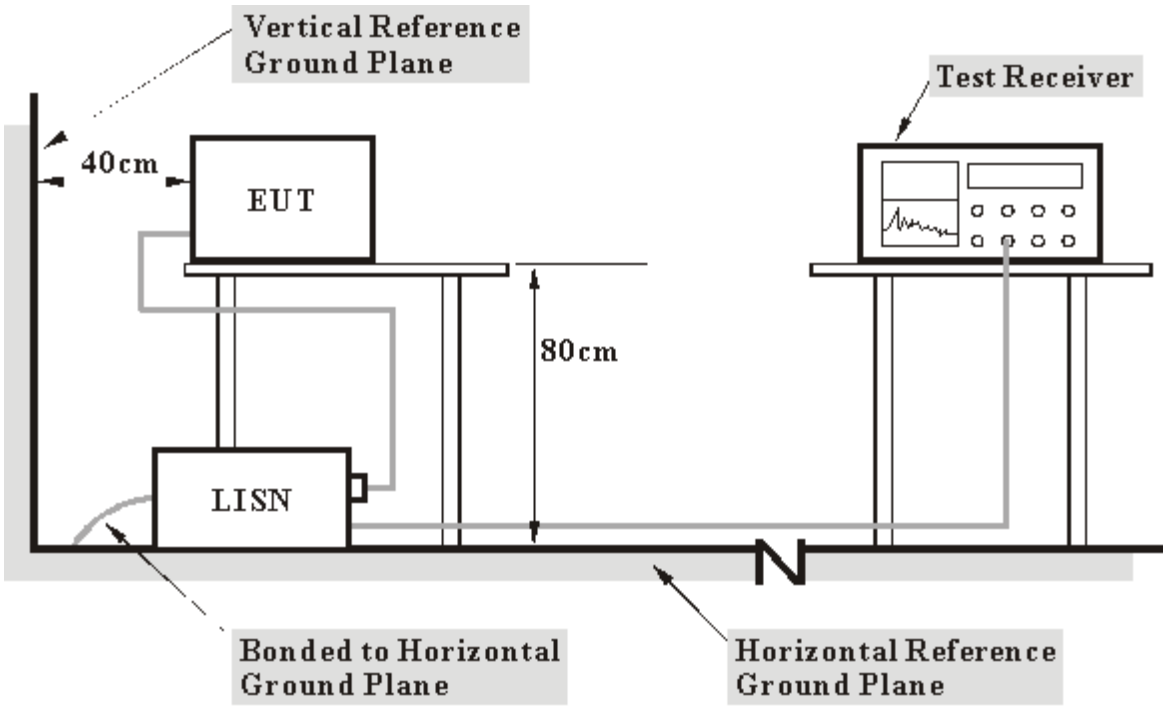
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits could not be reported

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

a. Power on the EUT and placed on a testing table.
b. The computer system ran a test program to enable EUT under transmission/receiving condition continuously at specific channel frequency.

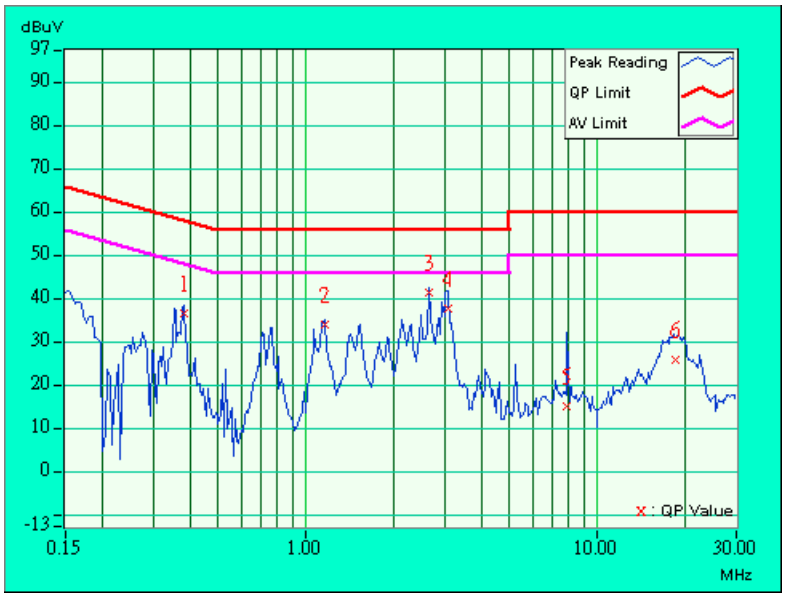
4.1.7 TEST RESULTS

EUT	BLUETOOTH MODEM	MODEL	BTM010
MODE	Channel 0	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	24 deg. C, 75%RH, 1005 hPa	TESTED BY: Bunny Yao	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.384	0.10	35.99	-	36.09	-	58.18	48.18	-22.09	-
2	1.156	0.22	33.57	-	33.79	-	56.00	46.00	-22.21	-
3	2.633	0.33	41.05	-	41.38	-	56.00	46.00	-14.62	-
4	3.070	0.35	37.23	-	37.58	-	56.00	46.00	-18.42	-
5	7.859	0.40	14.72	-	15.12	-	60.00	50.00	-44.88	-
6	18.547	0.57	25.38	-	25.95	-	60.00	50.00	-34.05	-

NOTE:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.

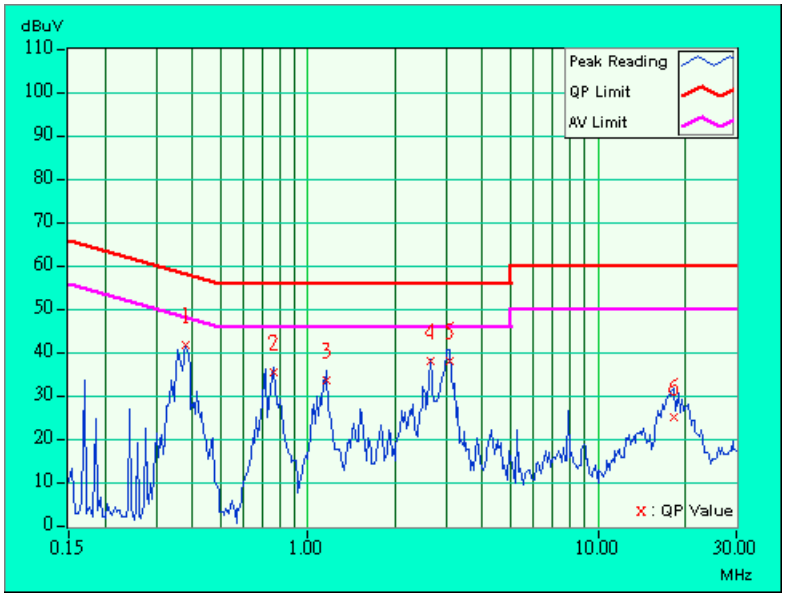


EUT	BLUETOOTH MODEM	MODEL	BTM010
MODE	Channel 0	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	24 deg. C, 75%RH, 1005 hPa	TESTED BY: Bunny Yao	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.380	0.10	41.20	-	41.30	-	58.27	48.27	-16.97	-
2	0.759	0.16	34.78	-	34.94	-	56.00	46.00	-21.06	-
3	1.160	0.22	33.05	-	33.27	-	56.00	46.00	-22.73	-
4	2.637	0.36	37.30	-	37.66	-	56.00	46.00	-18.34	-
5	3.070	0.41	37.41	-	37.82	-	56.00	46.00	-18.18	-
6	18.242	0.76	24.38	-	25.14	-	60.00	50.00	-34.86	-

NOTE:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.

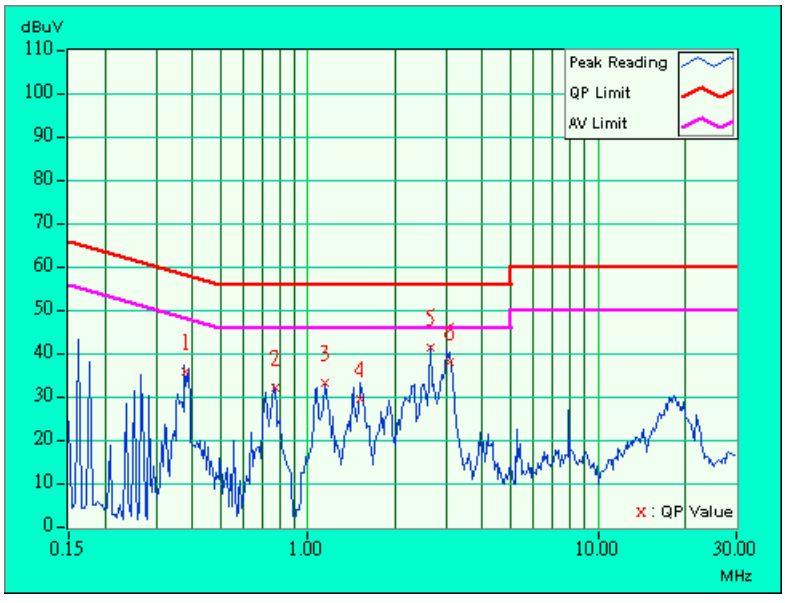


EUT	BLUETOOTH MODEM	MODEL	BTM010
MODE	Channel 39	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	24 deg. C, 75%RH, 1005 hPa	TESTED BY: Bunny Yao	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.380	0.10	35.42	-	35.52	-	58.27	48.27	-22.75	-
2	0.771	0.16	32.02	-	32.18	-	56.00	46.00	-23.82	-
3	1.145	0.21	33.01	-	33.22	-	56.00	46.00	-22.78	-
4	1.516	0.25	29.09	-	29.34	-	56.00	46.00	-26.66	-
5	2.633	0.33	41.00	-	41.33	-	56.00	46.00	-14.67	-
6	3.102	0.36	37.90	-	38.26	-	56.00	46.00	-17.74	-

NOTE:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.

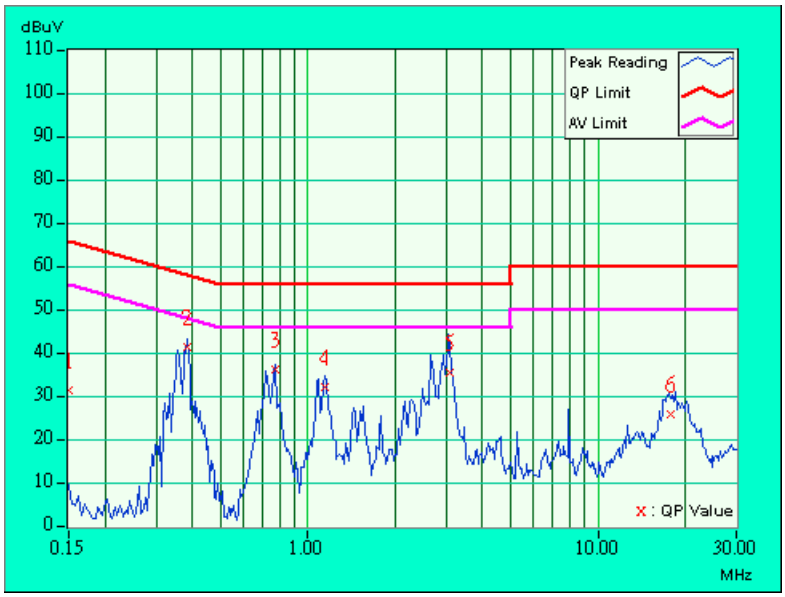


EUT	BLUETOOTH MODEM	MODEL	BTM010
MODE	Channel 39	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	24 deg. C, 75%RH, 1005 hPa	TESTED BY: Bunny Yao	

No	Freq.	Corr. Factor	Reading Value [dB (Uv)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.10	30.91	-	31.01	-	66.00	56.00	-34.99	-
2	0.384	0.10	40.75	-	40.85	-	58.18	48.18	-17.33	-
3	0.771	0.16	35.65	-	35.81	-	56.00	46.00	-20.19	-
4	1.145	0.21	31.31	-	31.52	-	56.00	46.00	-24.48	-
5	3.102	0.41	34.78	-	35.19	-	56.00	46.00	-20.81	-
6	17.797	0.76	25.23	-	25.99	-	60.00	50.00	-34.01	-

NOTE:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.

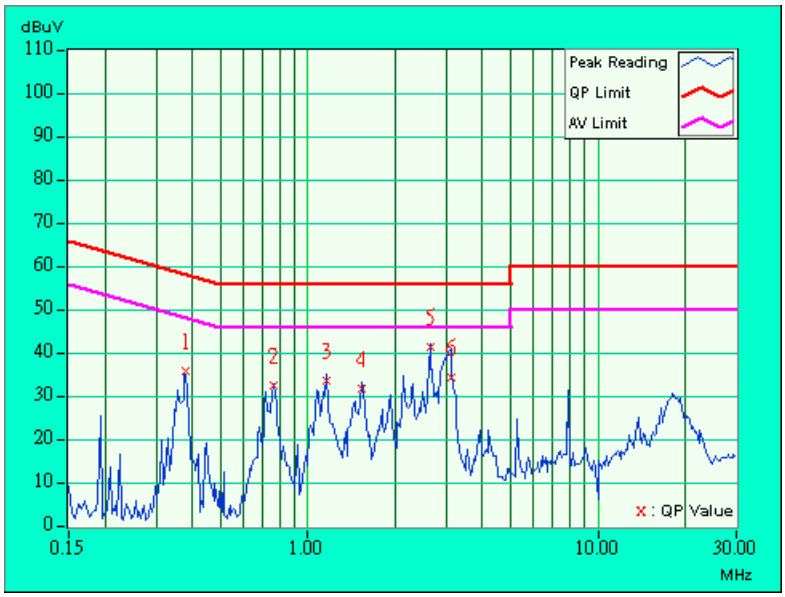


EUT	BLUETOOTH MODEM	MODEL	BTM010
MODE	Channel 78	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	24 deg. C, 75%RH, 1005 hPa	TESTED BY: Bunny Yao	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.380	0.10	35.48	-	35.58	-	58.27	48.27	-22.69	-
2	0.763	0.16	32.12	-	32.28	-	56.00	46.00	-23.72	-
3	1.156	0.22	33.43	-	33.65	-	56.00	46.00	-22.35	-
4	1.527	0.25	31.65	-	31.90	-	56.00	46.00	-24.10	-
5	2.633	0.33	41.06	-	41.39	-	56.00	46.00	-14.61	-
6	3.113	0.36	34.20	-	34.56	-	56.00	46.00	-21.44	-

NOTE:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value

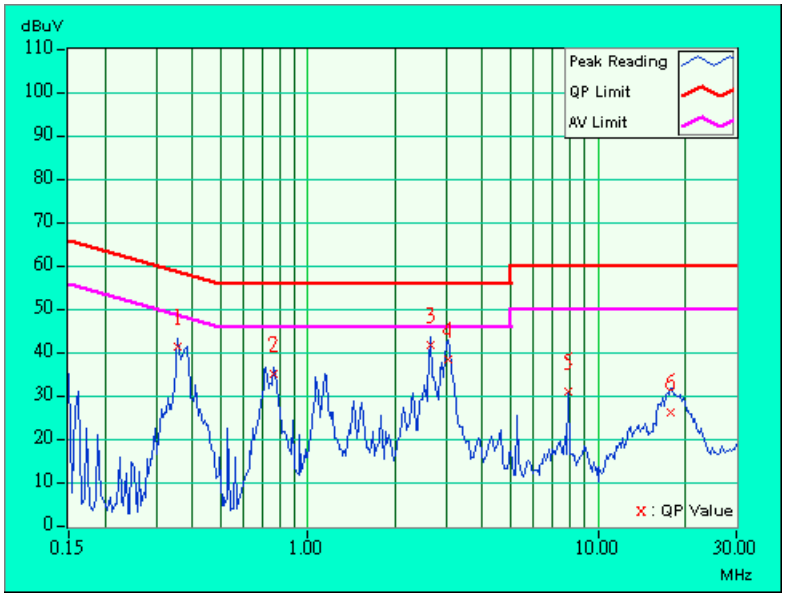


EUT	BLUETOOTH MODEM	MODEL	BTM010
MODE	Channel 78	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neurral (N)
ENVIRONMENTAL CONDITIONS	24 deg. C, 75%RH, 1005 hPa	TESTED BY: Bunny Yao	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.357	0.10	40.67	-	40.77	-	58.80	48.80	-18.03	-
2	0.759	0.16	34.56	-	34.72	-	56.00	46.00	-21.28	-
3	2.633	0.36	40.95	-	41.31	-	56.00	46.00	-14.69	-
4	3.043	0.40	37.75	-	38.15	-	56.00	46.00	-17.85	-
5	7.898	0.50	30.51	-	31.01	-	60.00	50.00	-28.99	-
6	17.813	0.76	25.55	-	26.31	-	60.00	50.00	-33.69	-

NOTE:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value



4.2 NUMBER OF HOPPING FREQUENCY USED

4.2.1 LIMIT OF HOPPING FREQUENCY USED

At least 15 hopping frequencies, and should be equally spaced.

4.2.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	July 24, 2003

NOTE:

The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.

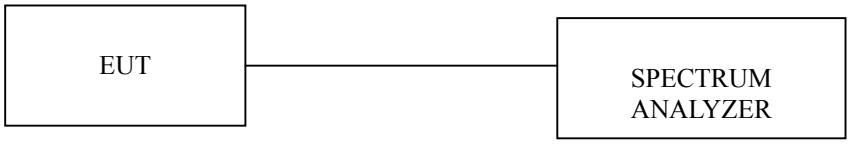
4.2.3 TEST PROCEDURES

1. Check the calibration of the measuring instrument (SA) using either an internal calibrator or a known signal from an external generator.
2. Turn on the EUT and connect its antenna terminal to measurement via a low loss cable. Then set it to any one measured frequency within its operating range and make sure the instrument is operated in its linear range.
3. Set the SA on MaxHold Mode, and then keep the EUT in hopping mode. Record all the signals from each channel until each one has been recorded.
4. Set the SA on View mode and then plot the result on SA screen.
5. Repeat above procedures until all frequencies measured were complete.

4.2.4 DEVIATION FROM TEST STANDARD

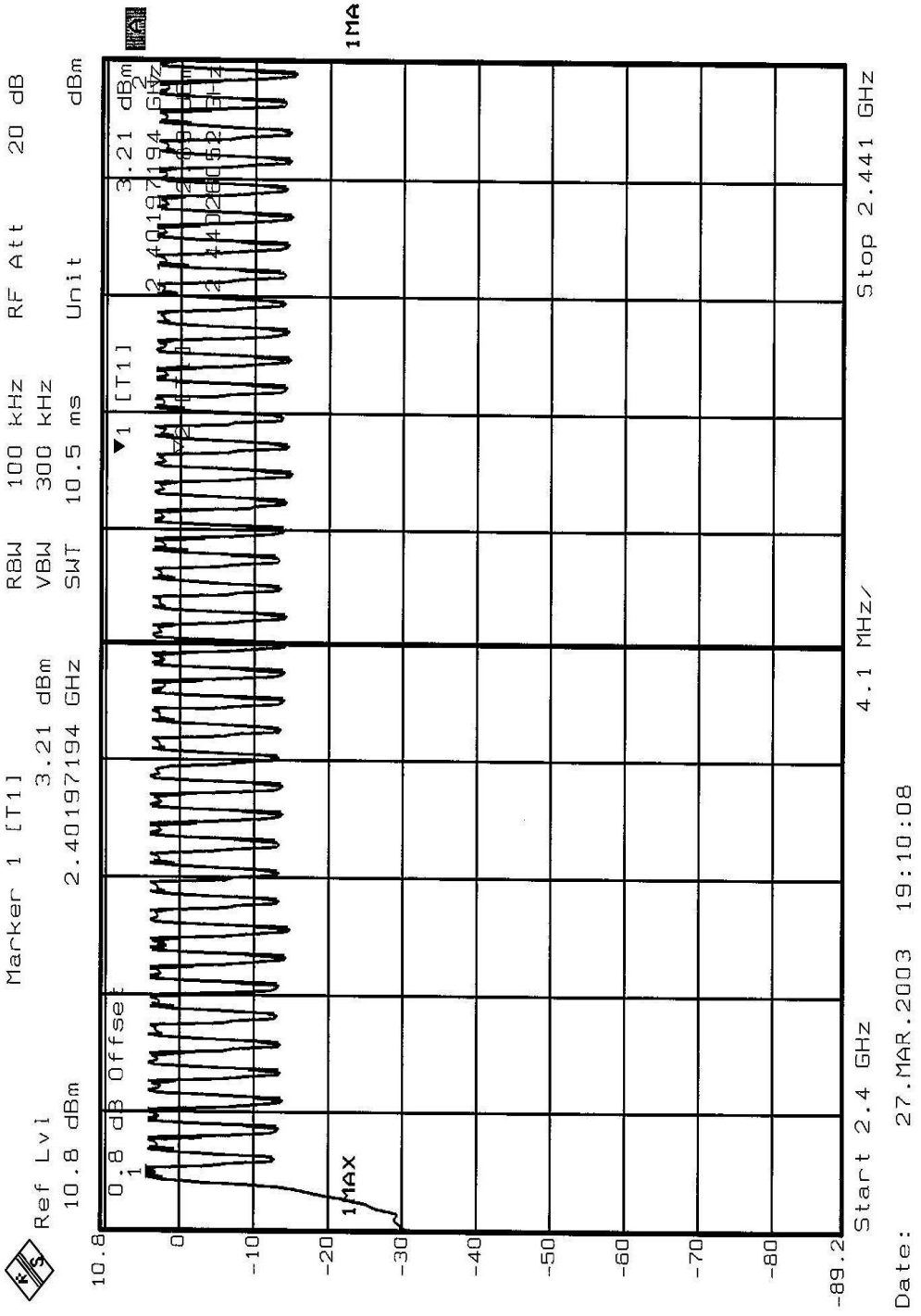
No deviation

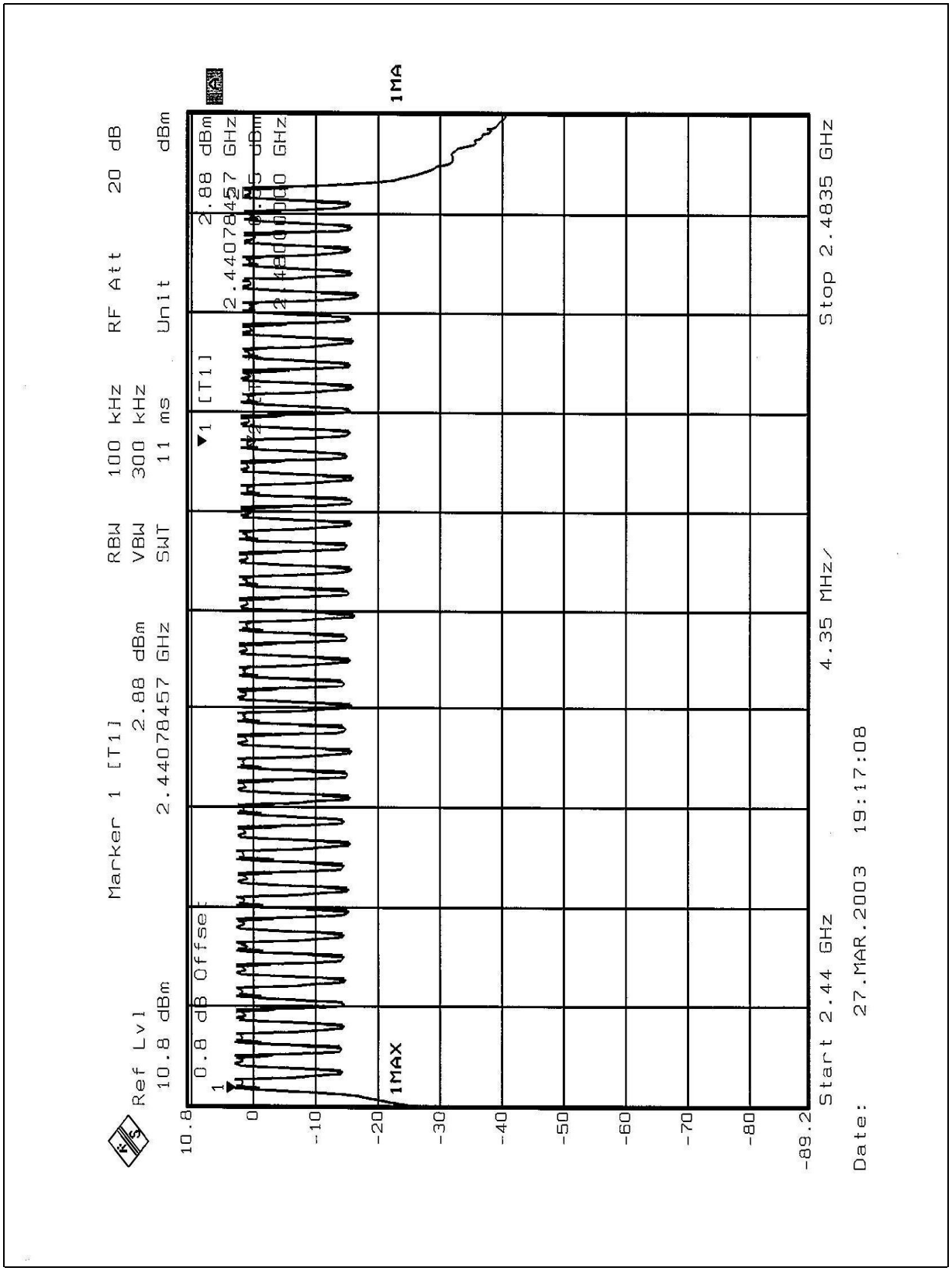
4.2.5 TEST SETUP



4.2.6 TEST RESULTS

There are 79 hopping frequencies in the hopping mode. Please refer to next two pages for the test result. On the plots, it shows that the hopping frequencies are equally spaced.


Marker 1 [T1]
3.21 dBm
2.40197194 GHz
RBW 100 kHz
VBW 300 kHz
SWT 10.5 ms
RF Att 20 dB
Unit dBm
Ref Lvl
10.8 dBm
0.8 dB Offset
1MAX
1MA
Start 2.4 GHz
4.1 MHz/
Stop 2.441 GHz
Date: 27.MAR.2003 19:10:08


Marker 1 [T1]
2.88 dBm
2.44078457 GHz
RBW 100 kHz
VBW 300 kHz
SWT 11 ms
RF Att 20 dB
Unit dBm
Ref Lvl
10.8 dBm
0.8 dB Offset
1MAX
1MA
Start 2.44 GHz
4.35 MHz/
Stop 2.4835 GHz
Date: 27.MAR.2003 19:17:08

4.3 DWELL TIME ON EACH CHANNEL

4.3.1 LIMIT OF DWELL TIME USED

For FHSS, the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 31.6 second period. For hybrid systems, the average time of occupancy on any frequency should not exceed 0.4 seconds within a time period in seconds equal to the number of hopping frequencies employed multiplied by 0.4.

4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	8564EC	4208A00662	Sept. 10, 2003

NOTES:

The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.

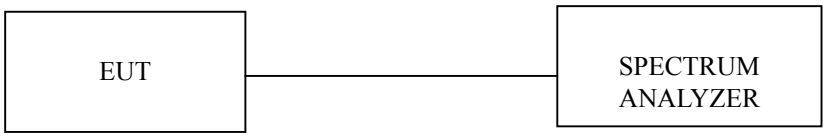
4.3.3 TEST PROCEDURES

1. Check the calibration of the measuring instrument (SA) using either an internal calibrator or a known signal from an external generator.
2. Turn on the EUT and connect its antenna terminal to measurement via a low loss cable. Then set it to any one measured frequency within its operating range and make sure the instrument is operated in its linear range.
3. Adjust the center frequency of SA on any frequency be measured and set SA to zero span mode. And then, set RBW and VBW of spectrum analyzer to proper value.
4. Measure the time duration of one transmission on the measured frequency. And then plot the result with time difference of this time duration.
5. Repeat above procedures until all frequencies measured were complete.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP

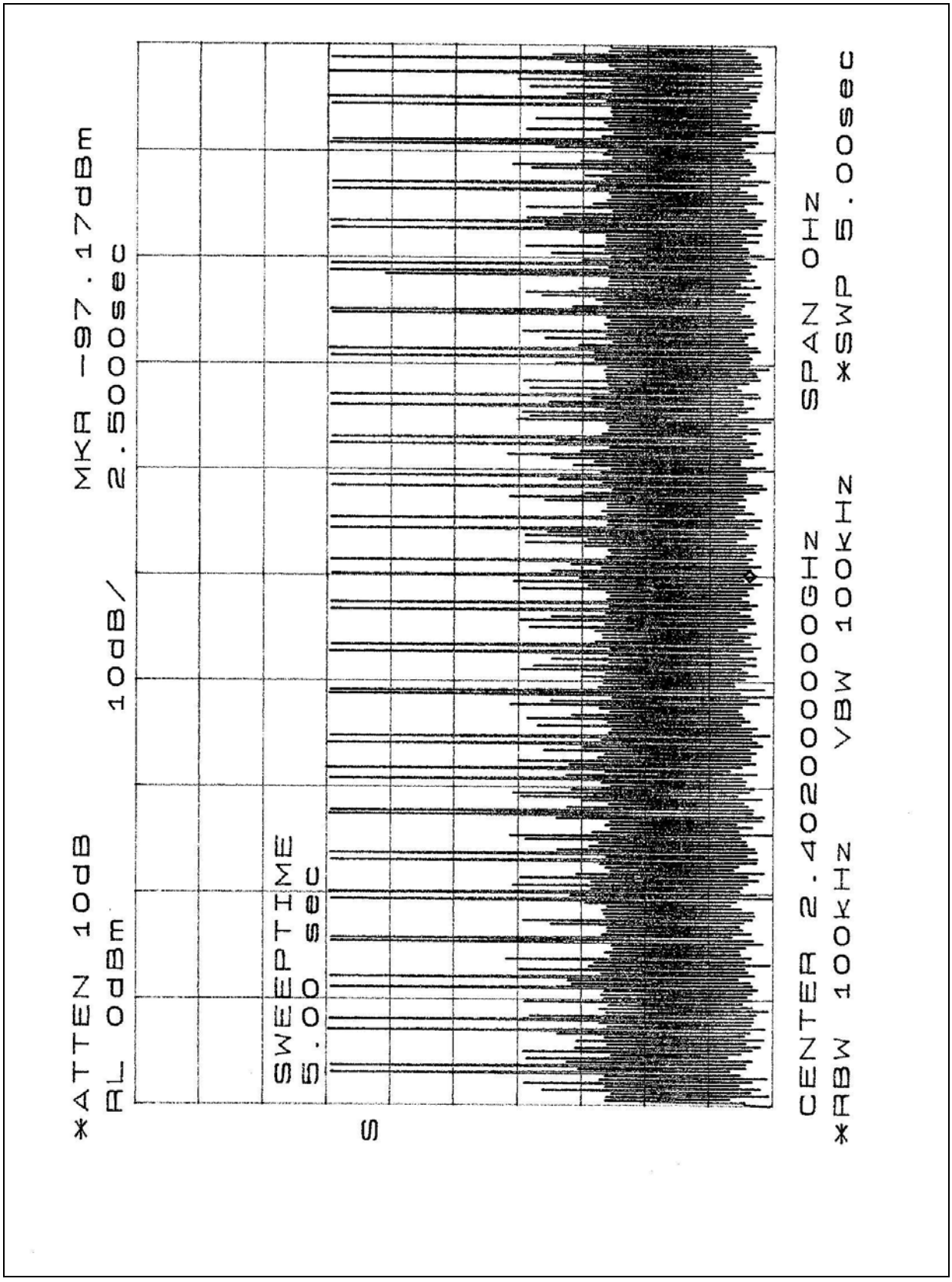


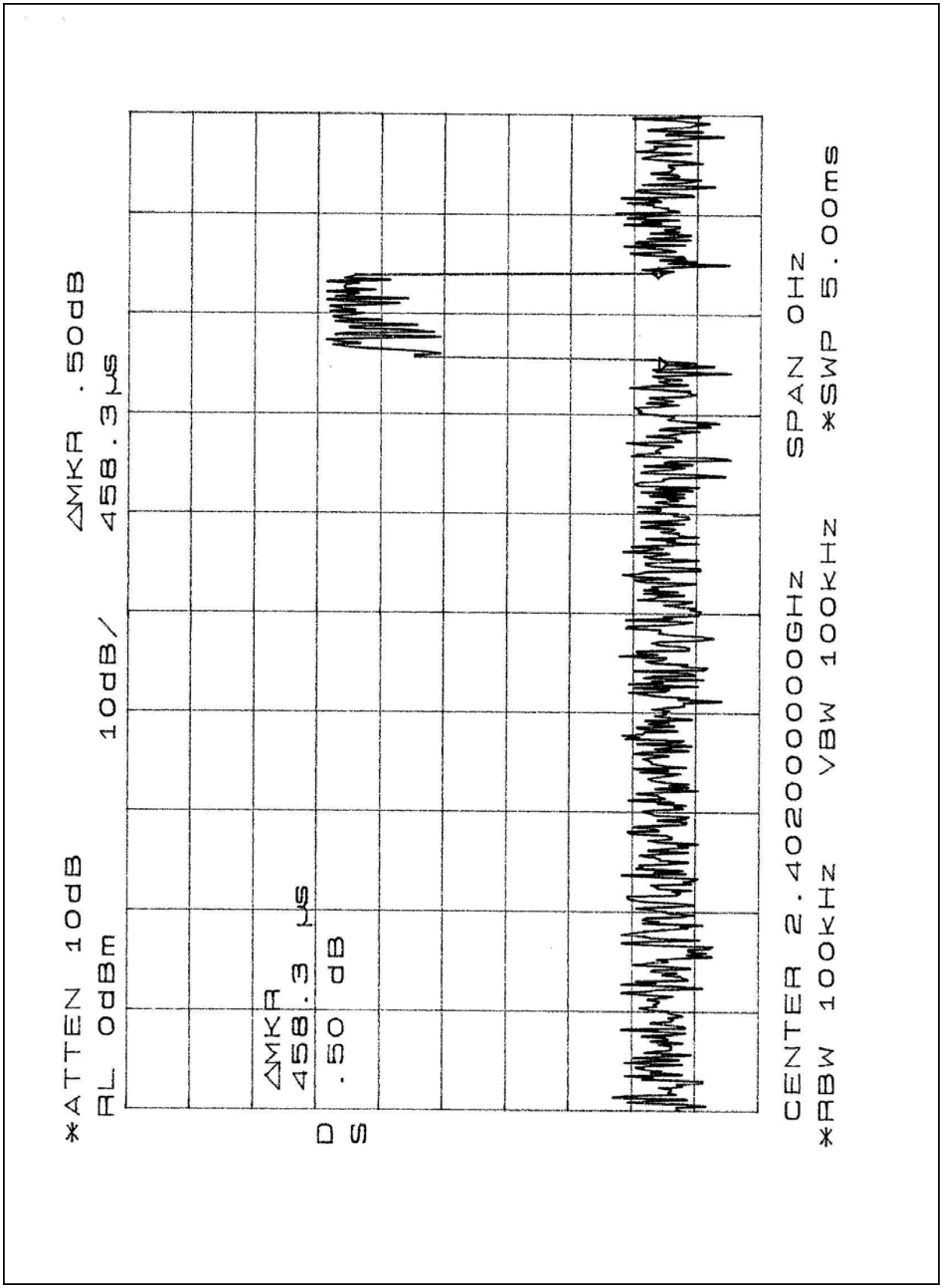
4.3.6 TEST RESULTS

Mode	Number of transmission in a 31.6 (79Hopping*0.4) / 12.8 (32Hopping*0.4) second period	Length of transmission time (msec)	Result (msec)	Limit (msec)
DH1	50 times / 5 sec *6.32=316.0 times	0.458	144.73	400
DH3	26 times / 5 sec *6.32=164.0 times	2.170	355.88	400
DH5	16 times / 5 sec *6.32=101.2 times	3.500	354.20	400

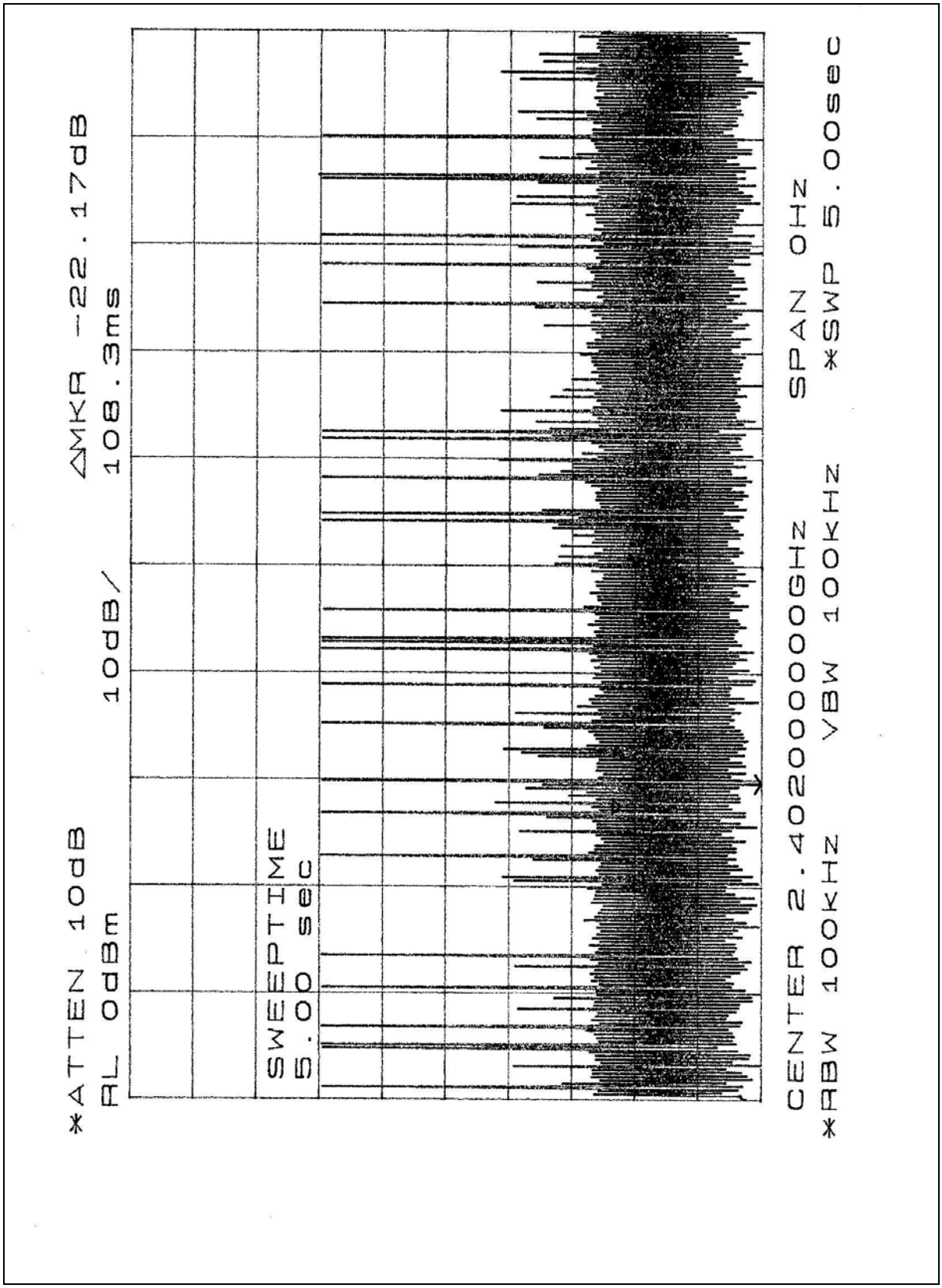
Test plots of the transmitting time slot are shown on next six pages.

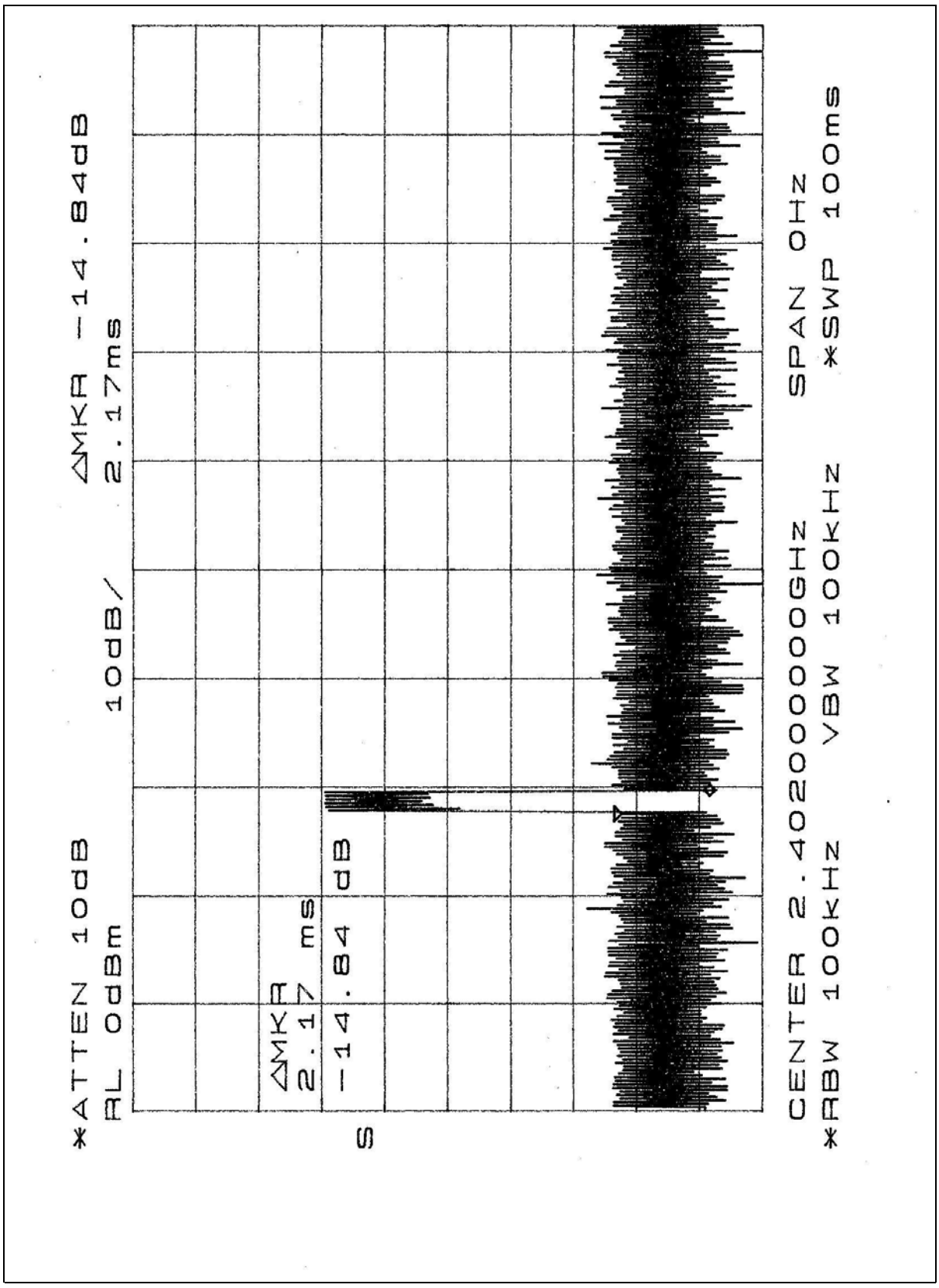
DH1


*ATTEN 10dB
RL 0dBm
10dB/
MKR -97.17dBm
2.5000sec
SWEEP TIME
5.00 sec
S
CENTER 2.402000GHz
SPAN 10
*RBW 100KHz
VBW 100KHz
*SWP 5.00sec

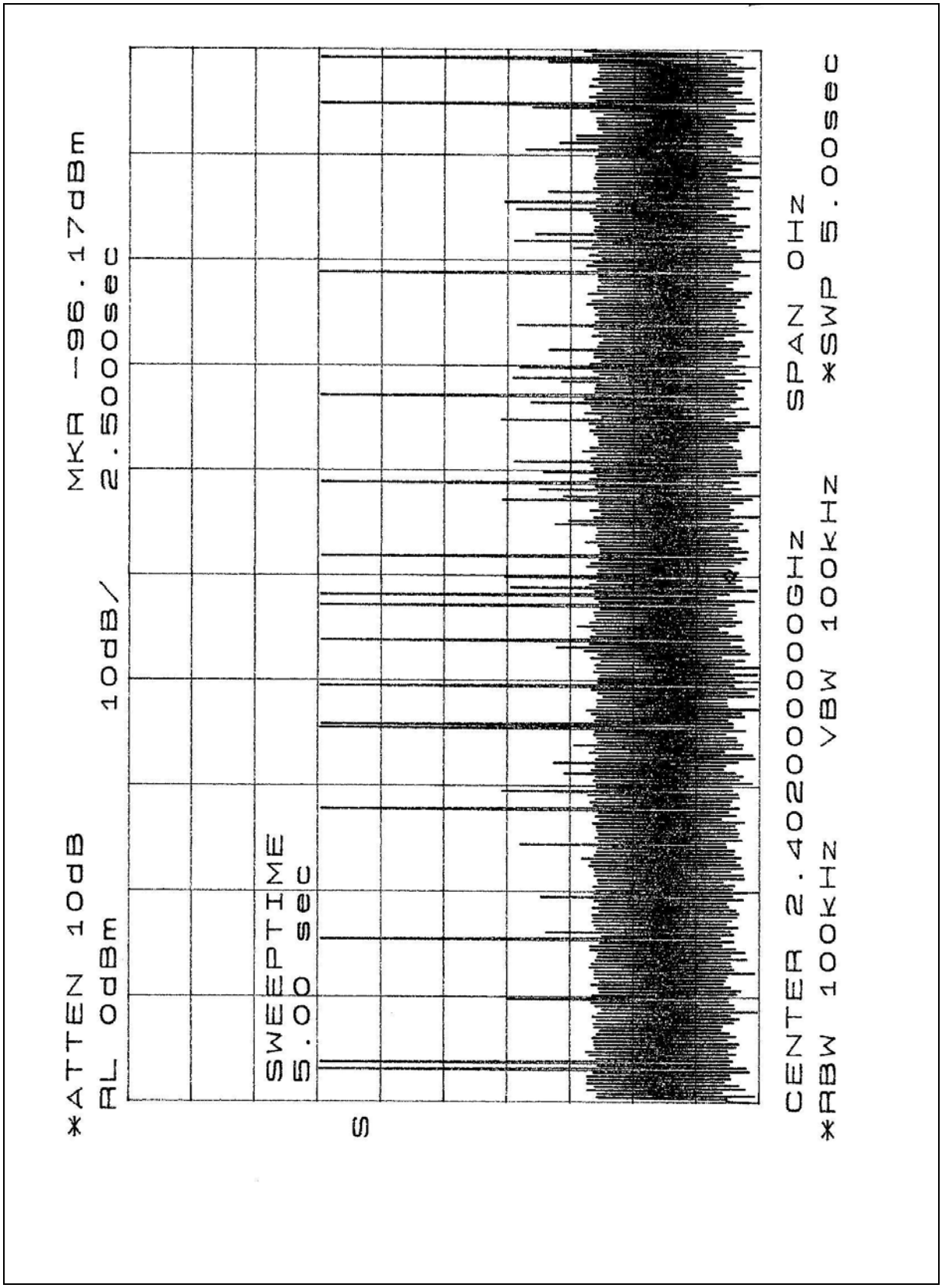

*ATTEN 10dB
RL 0dBm
10dB/
ΔMKR .50dB
458.3µs
ΔMKR
458.3 µs
.50 dB
D S
CENTER 2.402000000GHz
SPAN 0Hz
*RBW 100KHz
VBW 100KHz
*SWP 5.00ms

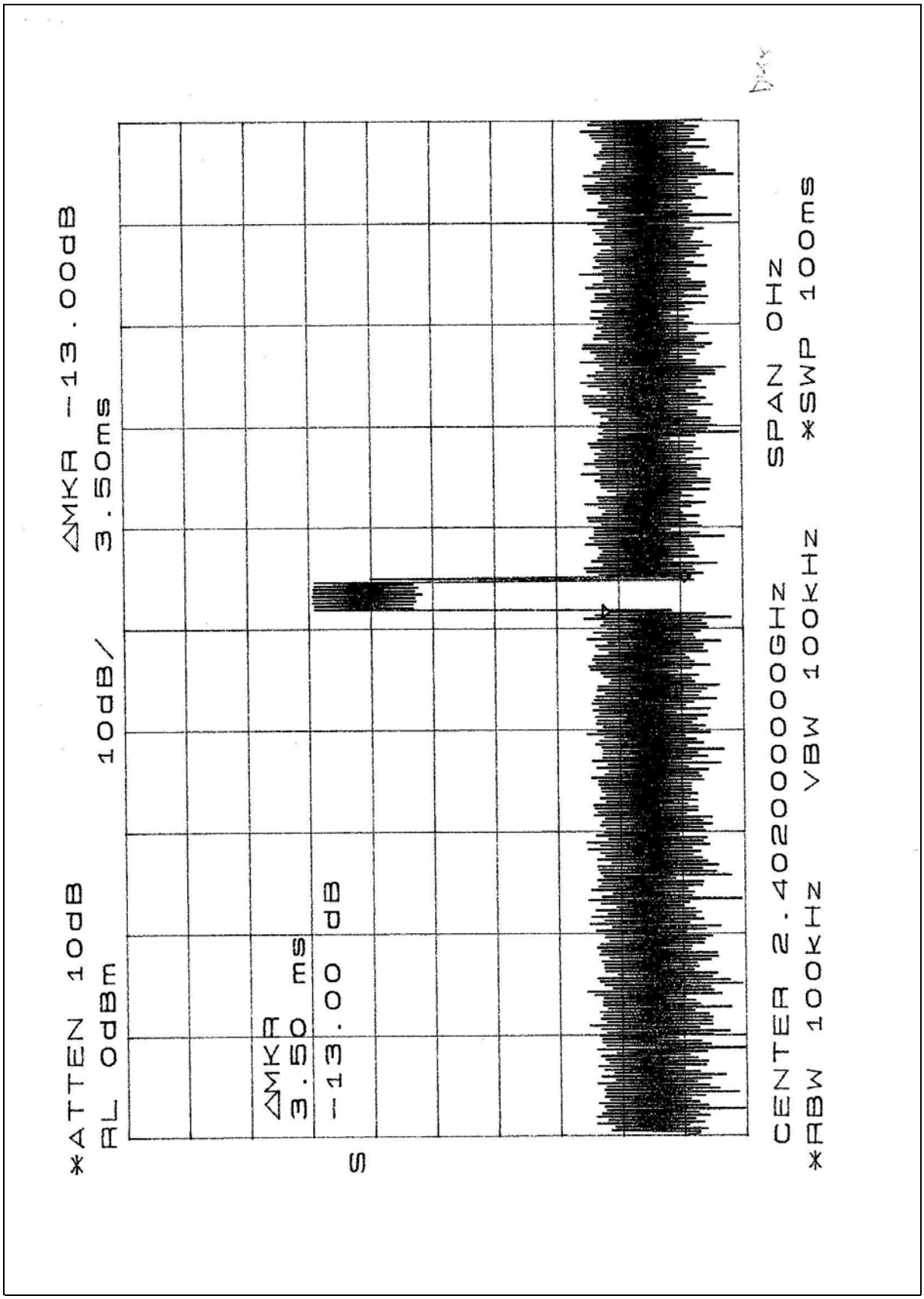
DH3


*ATTEN 10dB
RL 0dBm
10dB/
ΔMKR -22.17dB
108.3ms
SWEEPTIME
5.00 sec
CENTER 2.402000000GHz
SPAN 0Hz
*RBW 100kHz
VBW 100kHz
*SWP 5.00sec


*ATTEN 10dB
RL 0dBm
10dB/
ΔMKR -14.84dB
2.17ms
ΔMKR
2.17 ms
-14.84 dB
S
CENTER 2.402000GHz
SPAN 0Hz
*RBW 100kHz
VBW 100kHz
*SWP 100ms

DH5


*ATTEN 10dB
RL 0dBm
10dB/
MKR -96.17dBm
2.500000sec
SWEEPTIME
5.00 sec
S
CENTER 2.402000000GHz
*RBW 100kHz
VBW 100kHz
SPAN 10
*SWP 5.00sec


*ATTEN 10dB
RL 0dBm
10dB/
ΔMKR -13.00dB
3.50ms
ΔMKR
3.50 ms
-13.00 dB
S
CENTER 2.402000GHz
SPAN 0Hz
*RBW 100kHz
VBW 100kHz
*SWP 100ms

4.4 CHANNEL BANDWIDTH

4.4.1 LIMITS OF CHANNEL BANDWIDTH

For frequency hopping system operating in the 2400-2483.5 MHz and 5725-5850 MHz bands, the maximum 20 dB bandwidth of the hopping channel is 1 MHz.

4.4.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	July 24, 2003

NOTES:

The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.

4.4.3 TEST PROCEDURE

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 20dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP

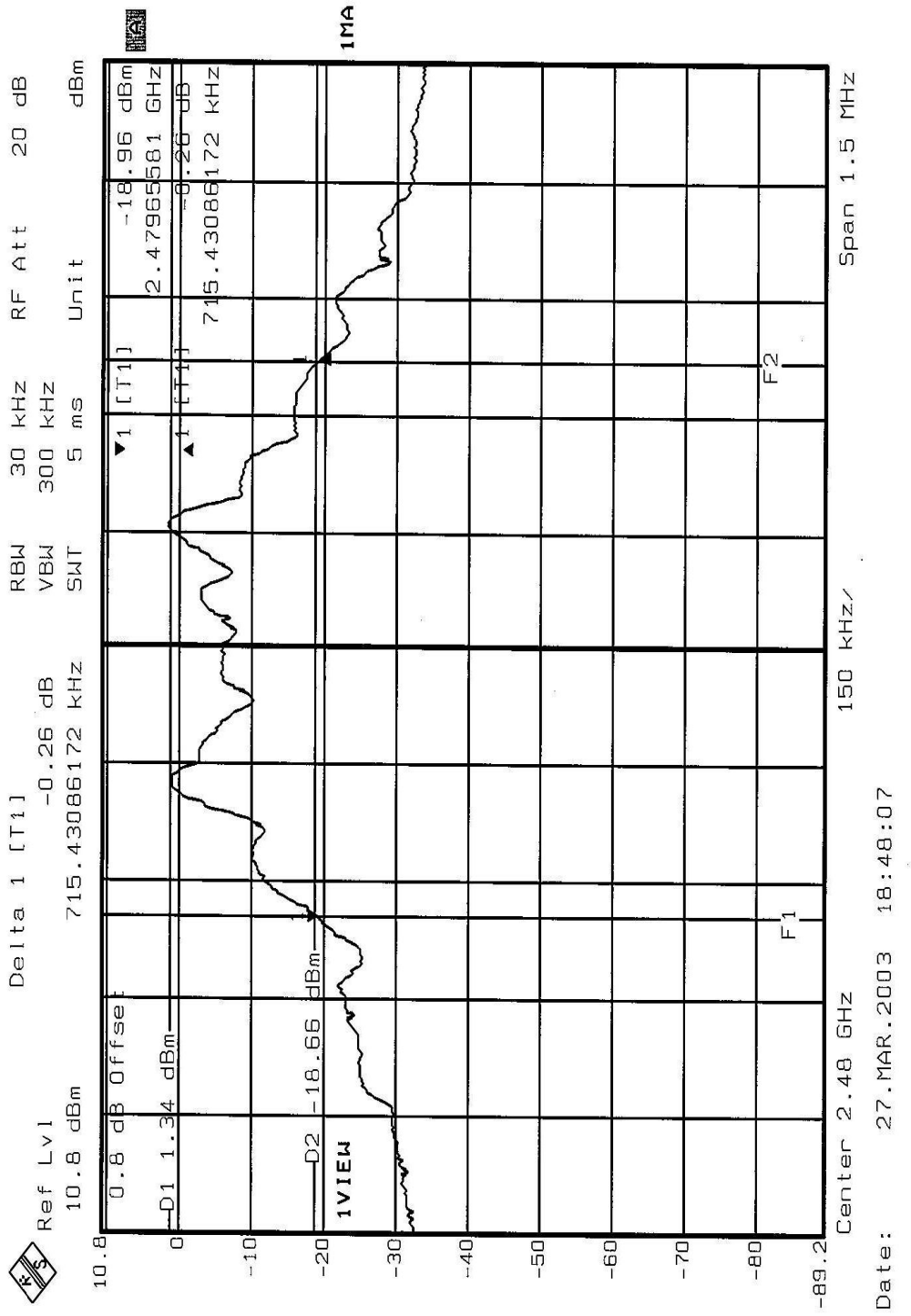
4.4.6 EUT OPERATING CONDITION

The software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel frequencies individually.

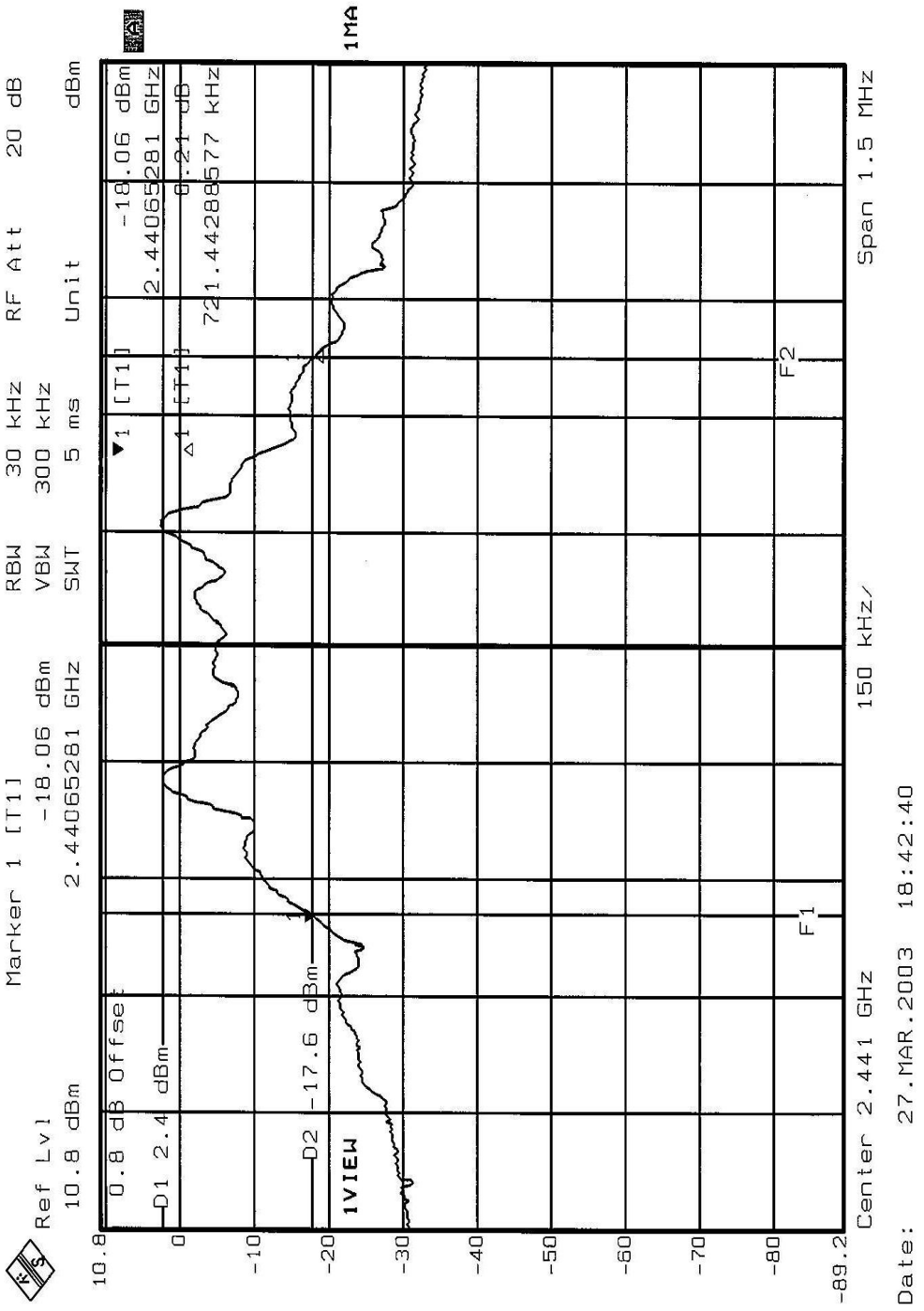
4.4.7 TEST RESULTS

CHANNEL	CHANNEL FREQUENCY (MHz)	20dB BANDWIDTH (kHz)	MAXIMUM LIMIT (MHz)	PASS/FAIL
0	2402	715.43	1	PASS
39	2441	721.44	1	PASS
78	2480	733.47	1	PASS

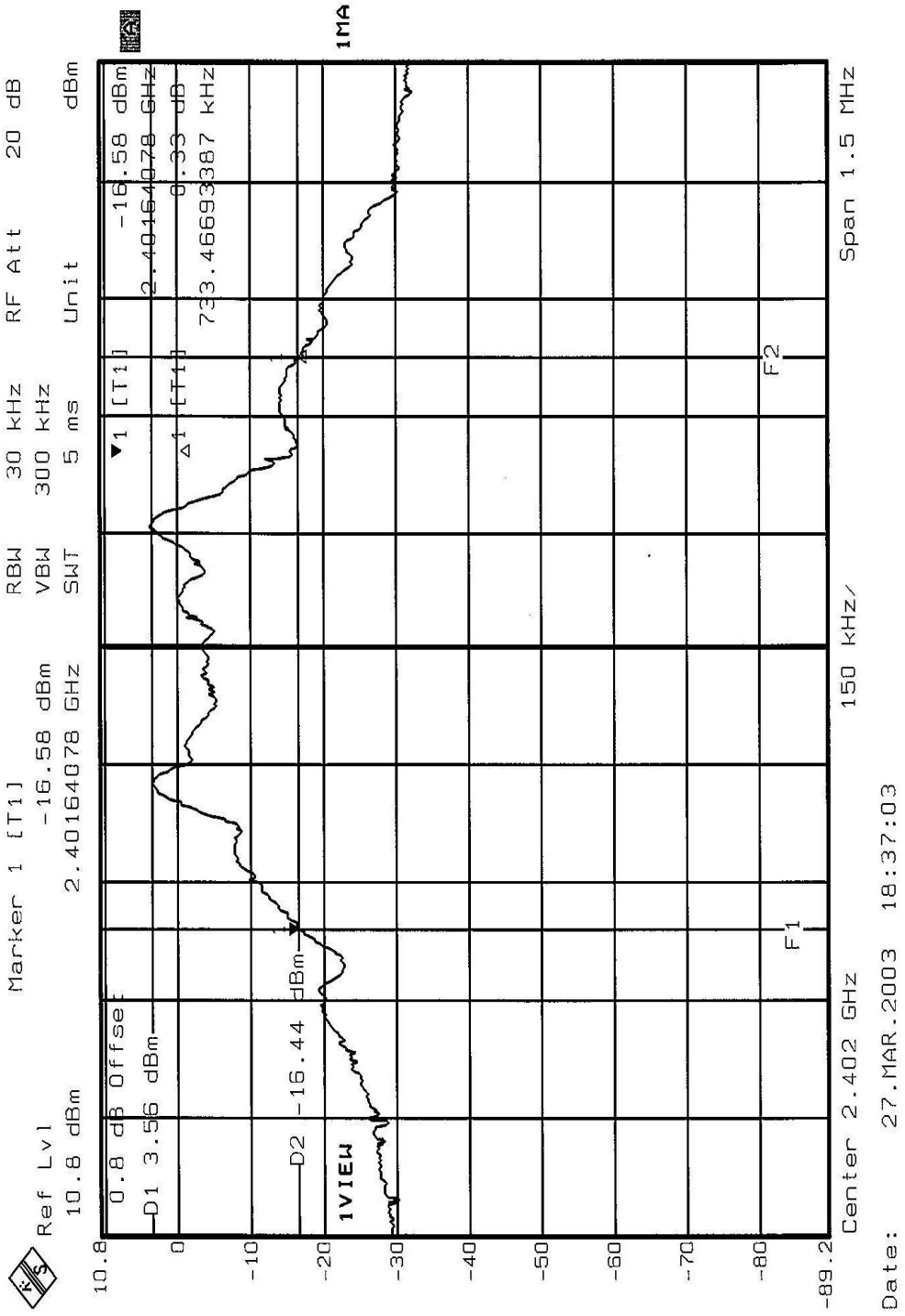
Channel 0


Ref Lvl
10.8 dBm
0.8 dB Offset
D1 1.34 dBm
D2 -18.66 dBm
1VIEW
Delta 1 [T1]
-0.26 dB
715.43086172 kHz
RBW 30 kHz
VBW 300 kHz
SWT 5 ms
RF Att 20 dB
Unit dBm
1 [T1]
-18.96 dBm
2.47965581 GHz
1 [T1]
-0.26 dB
715.43086172 kHz
1MA
F1
F2
Center 2.48 GHz
150 kHz/
Span 1.5 MHz
Date: 27.MAR.2003 18:48:07

Channel 39


Marker 1 [T1]
-18.06 dBm
2.44065281 GHz
RBW 30 kHz
VBW 300 kHz
SWT 5 ms
RF Att 20 dB
Unit dBm
Ref Lvl
10.8 dBm
0.8 dB Offset
D1 2.4 dBm
D2 -17.6 dBm
1VIEW
1MA
Span 1.5 MHz
150 kHz/
Center 2.441 GHz
Date: 27.MAR.2003 18:42:40
F1
F2

Channel 78


Ref Lvl
10.8 dBm
0.8 dB Offset
D1 3.56 dBm
Marker 1 [T1]
-16.58 dBm
2.401640 78 GHz
RBW 30 kHz
VBW 300 kHz
SWT 5 ms
RF Att 20 dB
Unit dBm
1 [T1]
-16.58 dBm
2.401640 78 GHz
Δ1 [T1] 0.33 dB
733.466933 87 kHz
1MA
D2 -16.44 dBm
1VIEW
F1
F2
Center 2.402 GHz
150 kHz/
Span 1.5 MHz
Date: 27.MAR.2003 18:37:03
10.8
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.2

4.5 HOPPING CHANNEL SEPARATION

4.5.1 LIMIT OF HOPPING CHANNEL SEPARATION

At least 25KHz or 20dB bandwidth (whichever is greater).

4.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	July 24, 2003

NOTES:

The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.

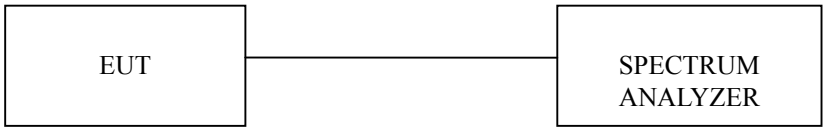
4.5.3 TEST PROCEDURES

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range.
3. By using the MaxHold function record the separation of two adjacent channels.
4. Measure the frequency difference of these two adjacent channels by SA MARK function. And then plot the result on SA screen.
5. Repeat above procedures until all frequencies measured were complete.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP

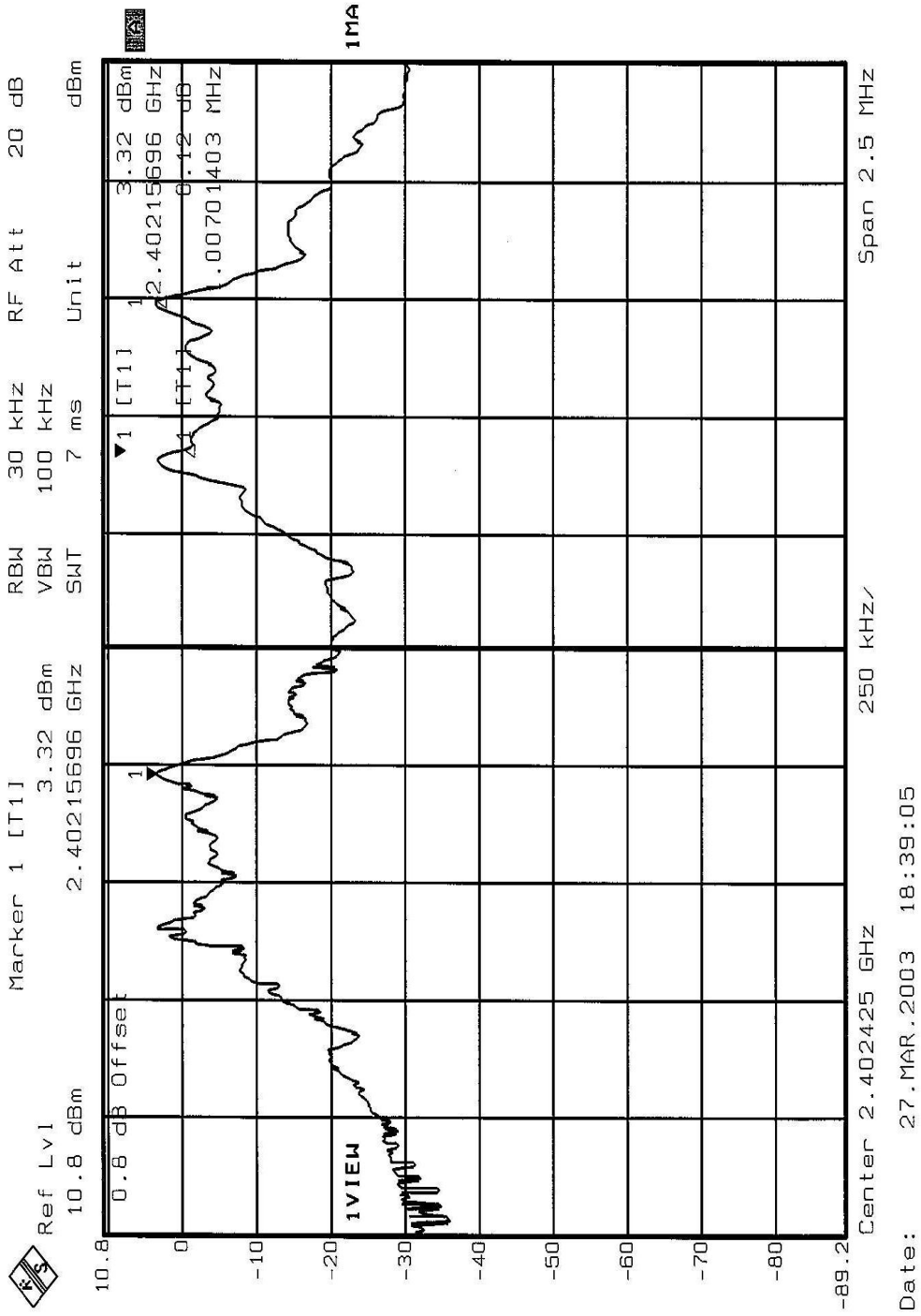


4.5.6 TEST RESULTS

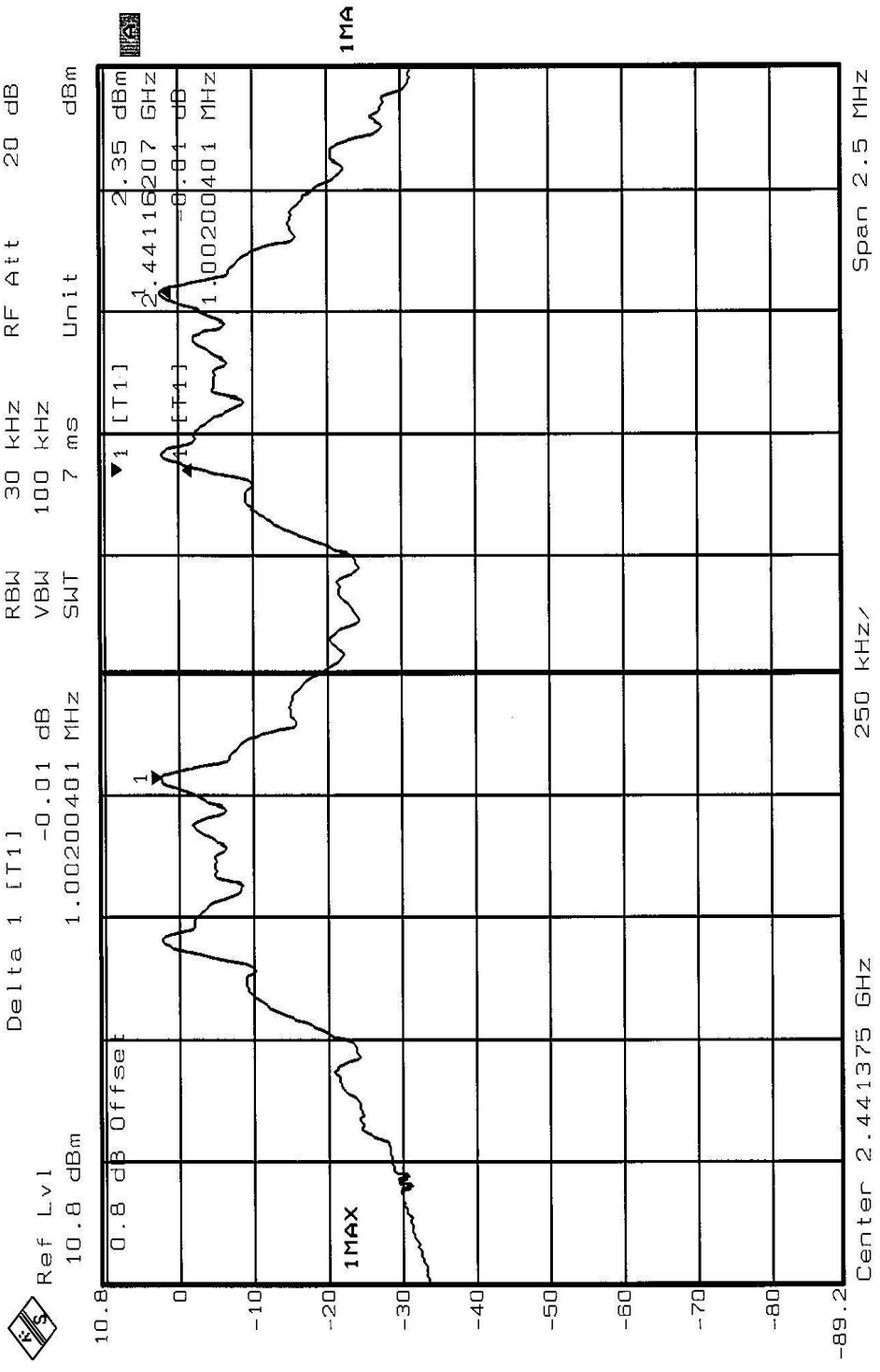
Channel	Frequency (MHz)	Adjacent Channel Separation	Minimum Limit (kHz)	Pass / Fail
0	2402	1MHz	715.43	PASS
39	2441	1MHz	721.44	PASS
78	2480	1MHz	733.47	PASS

The minimum limit is 20dB bandwidth. Test results please refer to next three pages.

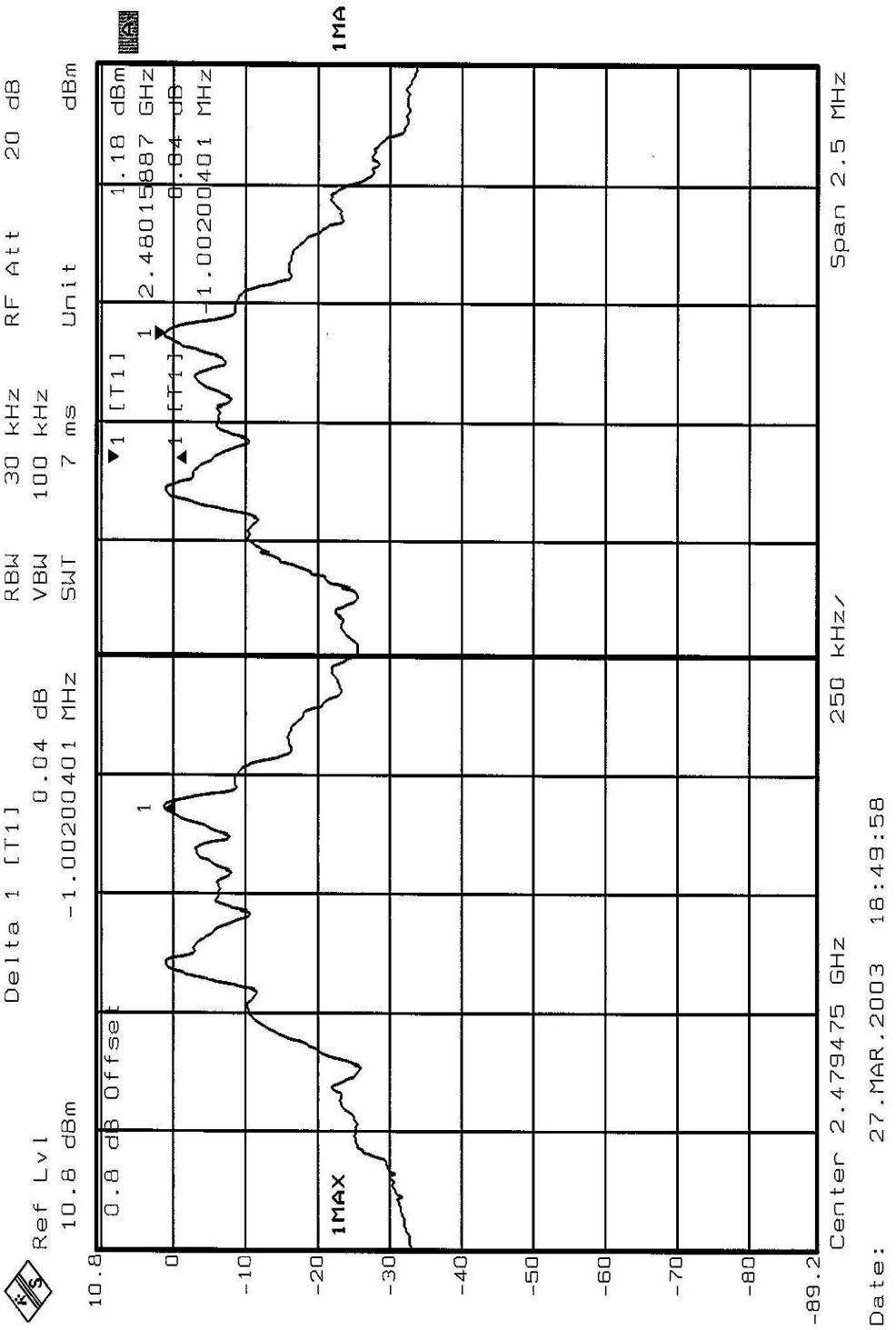
Channel 0


Ref Lvl
10.8 dBm
0.8 dB Offset
Marker 1 [T1]
3.32 dBm
2.402156696 GHz
RBW 30 kHz
VBW 100 kHz
SWT 7 ms
RF Att 20 dB
Unit dBm
1 [T1] 3.32 dBm
2.402156696 GHz
Δ1 [T1] 0.12 dB
.007014403 MHz
1MA
1VIEW
Center 2.402425 GHz
250 kHz/
Span 2.5 MHz
Date: 27.MAR.2003 18:39:05
10.8
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.2

Channel 39


Delta 1 [T1]
-0.01 dB
1.00200401 MHz
RBW 30 kHz
VBW 100 kHz
SWT 7 ms
RF Att 20 dB
Unit dBm
Ref Lvl
10.8 dBm
0.8 dB Offset
1MAX
1MA
[T1]
2.35 dBm
2.44116207 GHz
-0.81 dB
1.00200401 MHz
Center 2.441375 GHz
250 kHz/
Span 2.5 MHz
Date: 27.MAR.2003 18:45:08

Channel 78


Ref Lvl
10.8 dBm
0.8 dB Offset
Delta 1 [T1]
0.04 dB
-1.00200401 MHz
RBW 30 kHz
VBW 100 kHz
SWT 7 ms
RF Att 20 dB
Unit dBm
1 [T1] 1.18 dBm
2.48015887 GHz
1 [T1] 0.04 dB
-1.00200401 MHz
1MA
1MAX
Center 2.479475 GHz
250 kHz/
Span 2.5 MHz
Date: 27.MAR.2003 18:49:58
10.8
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.2