FCC ID: AMPL51A

EMC

TEST REPORT

REPORT NO. : F87102305
MODEL NO. : JT156A
DATE OF TEST : Oct. 27, 1998

PREPARED FOR: JEAN CO., LTD.

ADDRESS : 5F, 167, FU HSING N. RD.,
TAIPEI, TAIWAN, R.O.C.

PREPARED BY: ADVANCE DATA TECHNOLOGY CORPORATION

NVLAP®
Accredited Laboratory

12F, NO.1, SEC.4, NAN-KING EAST RD.,
TAIPEI, TAIWAN, R.O.C.

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1.

CERTIFICATION

Issue Date: Oct. 30, 1998

Product	:	LCD MONITOR
Trade Name	:	JEAN
Model No.	:	JT156A
Type No.	:	L51A
Applicant	:	JEAN CO., LTD.
Standard	:	FCC Part 15, Subpart B, Class B ANSI C63.4-1992 CISPR 22:1993+A1:1995+A2:1997

We hereby certify that one sample of the designation has been tested in our facility on Oct. 27, 1998. The test record, data evaluation and Equipment Under Test (EUT) configurations represent herein are true and accurate representation of the measurements of the sample's EMC characteristics under the conditions herein specified.

The test results show that the EUT as described in this report is in compliance with the Class B limits of conducted and radiated emission of applicable standards.

TESTED BY: Nan Liu , DATE: 10.30.98.
(Nan Liu)

CHECKED BY: Yemmy , DATE: 10/30/98
(Yemmy Soong)

APPROVED BY: Mike Su , DATE: 10/30/98
(Mike Su)

ADVANCE DATA TECHNOLOGY CORPORATION

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2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product	:	LCD MONITOR
Model No.	:	JT156A
Power Supply Type	:	DC (from power adapter)
Power Cord	:	Nonshielded (AC) (1.8 m)
		Nonshielded (DC) (1.0 m)
Data Cable	:	Shielded (1.5 m)

Note: The EUT is a 15" LCD monitor with resolution up to 1024x768 (60 kHz).

The EUT will be sold together with a JEAN power adapter, Model: JA30. Its rating, Input: 100-240 Vac, 50/60 Hz, 1.5 A. Output: DC 12 V, 2.5A, 30W. There are two ferrite cores on the DC output cable of power adapter.

There are two ferrite cores on the video cable of the EUT.

For more detailed features description, please refer to ATTACHMENT 1 - TECHNICAL DESCRIPTION OF EUT and User's Manual.

2.2 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 are used to form representative test configuration during the tests.

No.	Product	Brand	Model No.	FCC ID	I/O Cable
1	PERSONAL COMPUTER	HP	D4572A	SG71704548	Nonshielded Power (1.8m)
2	KEYBOARD	FORWARD	FDA-104GA	F4ZDA-104G	Shielded Signal (1.4m)
3	MOUSE	DEXIN	A2P800A	NIYA2P800A	Shielded Signal (1.5m)
4	PRINTER	HP	2225C+	DSI6XU2225	Shielded Signal (1.5m) Nonshielded Power (2.0m)
5	MODEM	ACEEX	1414	IFAXDM1414	Shielded signal (1.2m) Nonshielded Power (2.0m)
6	EARPHONE	HP	LT-100	N/A	Shielded Signal (2.0m)
7	VGA CARD	GORDIA	DSV3365	LUT-DSV3365	N/A
8	SOUND CARD	YAHSIN	AUDIO 1869	FCC DoC Approved	N/A

Note : 1. An audio cable (1.8m) was connected from the EUT and PC.

2.3 TEST METHODOLOGY AND CONFIGURATION

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4: 1992. Radiated testing was performed at an antenna to EUT distance of 10 m on an open area test site.

Please refer to the photos of test configuration in Item 5.

3. TEST INSTRUMENTS

3.1 TEST INSTRUMENTS (EMISSION)

RADIATED EMISSION MEASUREMENT

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
HP Spectrum Analyzer	8594A	3144A00308	Sept. 3, 1999
HP Preamplifier	8447D	2944A08119	Jan. 20, 1999
ROHDE & SCHWARZ TEST RECEIVER	ESVP	893496/030	July 15, 1999
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 28, 1998
CHASE Bilog Antenna	CBL6112A	2329	Sept. 19, 1999
EMCO Turn Table	1060	1195	N/A
EMCO Tower	1051	1163	N/A
Open Field Test Site	Site 2	ADT-R02	Sept. 18, 1999

Note: 1. The measurement uncertainty is less than +/- 3dB, which is calculated as per NAMA's document NIS81.

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

CONDUCTED EMISSION MEASUREMENT

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ROHDE & SCHWARZ Test Receiver	ESHS30	828109/007	July 22, 1999
ROHDE & SCHWARZ Artificial Mains Network	ESH2-Z5	892107/003	July 20, 1999
EMCO L.I.S.N.	3825/2	9504-2359	July 20, 1999
Shielded Room	Site 3	ADT-C03	N/A

Note: 1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per NAMA's document NIS81.

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

3.2 LIMITS OF CONDUCTED AND RADIATED EMISSION

LIMIT OF RADIATED EMISSION OF CISPR 22

FREQUENCY (MHz)	Class A (at 10m) dBuV/m	Class B (at 10m) dBuV/m
30 - 230	40	30
230 - 1000	47	37

LIMIT OF RADIATED EMISSION OF FCC PART 15, SUBPART B FOR FREQUENCY ABOVE 1000 MHz

FREQUENCY (MHz)	Class A (at 10m)		Class B (at 3m)	
	uV/m	dBuV/m	uV/m	dBuV/m
Above 1000	300	49.5	500	54.0

Note: (1) The lower limit shall apply at the transition frequencies.

(2) Emission level (dBuV/m) = 20 log Emission level (uV/m).

(3) All emanation 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.

LIMIT OF CONDUCTED EMISSION OF CISPR 22

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

Note: (1) The lower limit shall apply at the transition frequencies.

(2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz

(3) All emanation 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. TEST RESULTS (EMISSION)

4.1 RADIO DISTURBANCE

Frequency Range	:	0.15 - 30 MHz (Conducted Emission)
		30 - 1000 MHz (Radiated Emission)
Input Voltage	:	120 Vac, 60 Hz
Temperature	:	25 ℃
Humidity	:	64 %
Atmospheric Pressure	:	998 mbar

TEST RESULT	Remarks
PASS	Minimum passing margin of conducted emission: -17.1 dB at 15.112 MHz Minimum passing margin of radiated emission: -3.9 dB at 540.02 MHz

Note: The EUT was pretested under the following resolution & horizontal synchronization speed mode:

* 1024x768 mode (60 kHz),
* 800x600 mode (48 kHz),
* 640x480 mode (31.5 kHz)

The worst emission levels were found under 1024x768 (60 kHz) and therefore the test data of only this mode is recorded.

4.1.1 EUT OPERATION CONDITION

1. Turn on the power of all equipments.
2. PC runs a test program to enable all functions.
3. PC reads and writes messages from FDD and HDD.
4. PC sends "H" messages to LCD monitor (EUT) and the LCD monitor displays "H" patterns on their screen.
5. PC sends "H" messages to modem.
6. PC sends "H" messages to printer, and the printer prints them on paper.
7. PC sends audio messages to internal speaker of EUT and earphone.
8. Repeat steps 3-8.

4.1.2 TEST DATA OF CONDUCTED EMISSION

EUT: **LCD MONITOR** MODEL: **JT156A**

MODE: **1024x768 (60 kHz)**

6 dB Bandwidth: 10 kHz

TEST PERSONNEL: Nan Liu

Freq.	L Level		N Level		Limit		Margin [dB (μV)]			
[MHz]	[dB (μV)]		[dB (μV)]		[dB (μV)]		L		N	
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV
0.150	48.70	-	48.80	-	66.00	56.00	-17.3	-	-17.2	-
0.258	34.40	-	35.60	-	61.50	51.50	-27.1	-	-25.9	-
0.609	18.70	-	20.10	-	56.00	46.00	-37.3	-	-35.9	-
4.105	29.10	-	28.70	-	56.00	46.00	-26.9	-	-27.3	-
13.115	23.80	-	24.90	-	60.00	50.00	-36.2	-	-35.1	-
15.112	42.50	-	42.90	-	60.00	50.00	-17.5	-	-17.1	-

Remarks:
1. "*": Undetectable
2. Q.P. and AV. are abbreviations of quasi-peak and average individually.
3. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
4. The emission levels of other frequencies were very low against the limit.
5. Margin value = Emission level - Limit value

4.1.3 TEST DATA OF RADIATED EMISSION

EUT: **LCD MONITOR** MODEL: **JT156A**

MODE: **1024x768 (60 kHz)**

ANTENNA: CHASE BILOG CBL6112A POLARITY: Horizontal

DETECTOR FUNCTION: Quasi-peak 6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz MEASURED DISTANCE: 10 M

TEST PERSONNEL: Nan Liu

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
79.97	8.5	14.5	23.0	30.0	-7.0
143.99	13.2	7.8	21.0	30.0	-9.0
158.39	11.5	7.4	18.9	30.0	-11.1
181.20	11.6	3.5	15.1	30.0	-14.9
197.96	11.8	4.8	16.6	30.0	-13.4
216.02	13.0	8.4	21.4	30.0	-8.6
236.35	14.5	9.7	24.2	37.0	-12.8
298.97	16.1	8.4	24.5	37.0	-12.5
315.15	16.7	14.6	31.3	37.0	-5.7
540.00	21.9	4.4	26.3	37.0	-10.7

REMARKS:
1. Emission level (dBuV/m) = Correction Factor (dB/m) +Meter Reading (dBuV).
2. Correction Factor (dB/m) = Ant. Factor (dB/m)+Cable loss (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level - Limit value

FCC ID: AMPL51A

TEST DATA OF RADIATED EMISSION

EUT: **LCD MONITOR** MODEL: **JT156A**

MODE: **1024x768 (60 kHz)**

ANTENNA: CHASE BILOG CBL6112A POLARITY: Vertical

DETECTOR FUNCTION: Quasi-peak 6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz MEASURED DISTANCE: 10 M

TEST PERSONNEL: Nan Liu

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
71.99	6.7	18.0	24.7	30.0	-5.3
87.04	9.0	14.9	23.9	30.0	-6.1
144.01	13.6	9.8	23.4	30.0	-6.6
157.60	11.9	6.8	18.7	30.0	-11.3
181.23	11.4	7.9	19.3	30.0	-10.7
196.97	12.4	12.0	24.4	30.0	-5.6
204.85	12.9	9.0	21.9	30.0	-8.1
212.74	13.2	7.6	20.8	30.0	-9.2
216.00	13.4	12.0	25.4	30.0	-4.6
220.61	13.6	7.7	21.3	30.0	-8.7
236.35	14.3	10.2	24.5	37.0	-12.5
540.02	23.3	9.8	33.1	37.0	-3.9

REMARKS:
1. Emission level (dBuV/m) = Correction Factor (dB/m) +Meter Reading (dBuV).
2. Correction Factor (dB/m) = Ant. Factor (dB/m)+Cable loss (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level - Limit value

6. ATTACHMENT 1 - TECHNICAL DESCRIPTION OF EUT

Specifications:

*** LCD Panel**

14.5" TFT
15.1" TFT

*** Power Management**

Energy Star compliant VESA
DPMS compatible
< 5 W

*** Displayable Resolution**

XVGA 1024 x 768 max.

*** Pixel Dimension**

0.288 x 0.288 mm (14.5")
0.300 x 0.300 mm (15.1")

*** LCD Display Color**

262, 144 Color Max. (18 bit)

*** Viewing Angle**

	15.1" (typical CR ≧5	14.5" (typical CR ≧10
Horizontal	-80° , + 80°	-60° , + 60°
Vertical	-55° , + 60°	-50° , + 55°

*** Tilt**

+20° , -5°

*** Contrast Ratio Brightness**

200 : 1 (14.5") ; 300 : 1 (15.1")
200 cd/m2 (14.5") ; 250 cd/m2 (15.1")

*** Response Time**

28 ms (typical)

*** Active Display Area**

294.9 mm x 221.2 mm (14.5")
307.2 mm x 230.4 mm (15.1")

*** Temperature**

Operating : 0℃ ~ +35℃
Storage : -20℃ ~ +60℃

*** Power**

Voltage : 100 - 240 V
Consumption : 30 Watts (TYP)

*** Weight**

Net : 5.5 kgs
Gross : 7.5 kgs

ADT CORP.

TEL:(02)2603-2180-3 FAX:(02)2602-2943

TEST REPORT & CERTIFICATION SERVICES QUESTIONNAIRE

We, ADT Corp., would like to provide you a high quality report and certification in a timely manner. To achieve this goal, we would like you to response to the brief questions listed below in this questionnaire. Therefore your feed back is vital to us in order to determine how good our services are, and what areas could be improved.

Please indicate beside each question what you feel is the rating. Also, feel free to make comments and suggestions directly on this questionnaire, or by attaching separate sheet. The completed form should then be returned by mail or FAX to ***Harris W. Lai***, *Director. Your cooperation and effort are truly appreciated.*

TEST REPORT NUMBER : _____

	YES	NO
1. Was the information presented clearly	[ ]	[ ]
2. Was the report complete ?	[ ]	[ ]
3. Was the report timely ?	[ ]	[ ]
4. Did the report satisfy your requirement ?	[ ]	[ ]
5. Was the Certification (if any) completed in the scheduled time ?	[ ]	[ ]

Your working field ? [ ] Engineering [ ] Manufacturing
[ ] Marketing [ ] Other

YOUR CONTACT INFORMATION (OPTIONAL) : _____

_____

OPTIONAL COMMENTS : _____

_____

_____

_____

JEAN

美齊股份有限公司
JEAN CO., LTD.

中華民國台灣省台北市復興北路167號5樓
5F, NO. 167, FU HSING N. RD., TAIPEI, TAIWAN, R. O. C.

TEL: (02) 718-7000(代表號)
FAX: 886-2-7187171 · 7120954

Federal Communications Commission
Authorization and Evaluation Division
7435 Oakland Mills Rd.
Columbia, MD. 21046

Date: Nov. 18, 1998

Attention: Authorization and Evaluation Division

Subject: RFI related modifications incorporated into unit with - FCC ID: AMPL51A

Dear Sirs:

This letter serves as our declaration that all modifications listed below were implemented in the sample submitted for testing.We further declare that the same modifications will be implemented into all production units to enhance compliance of the units to FCC limits.

The modifications include the following:

1) Added two ferrite cores on the video cable outside the LCD monitor. (see photo 2)
2) Added two ferrite cores on the DC output cable of the adapter. (see photo 2)
3) Added two ferrite cores on the cables connecting the logical board and the LCD panel. (see photo 6)
4) Added a metal plate on the component side of the logical board for EMI. (see photo 12)
5) Added a ferrite core on the wires connecting the logical board and inverter board with one turn. (see photo 6)
6) Added shielding tape covering the wires connecting the logical board and inverter board for EMI. (see photo 6)
7) Added copper foils on the metal plate and on the speaker wires, for EMI. (see photo 5)
8) Added copper foils on the three sides of the LCD panel for EMI. (see photo 9 & 10)
9) Added one EMI gasket on the solder side of the logical board. (see photo 12)
10) Added a ferrite core on the ground wire of the power adapter. (see photo 22)

If you have any further questions or comments regarding the above, please don't hesitate to contact Mr. Mike Su of ADT Lab. at fax No.:886-2-2602-2943 or E-mail: mike@mail.adt.com.tw

Sincerely yours,

Kent Tsai / Safety Manager
Jean Co., Ltd.

cc. Mr. Harris W. Lai - Advance Data Technology Corporation

ADT CO. Shielded Room 3
CISPR 22 CLASS B

27. Oct 98 11:54

EUT:	JT156A (TYPE NO: L51A)
Manuf:	1024X768 60K/75Hz
Test Spec:	LISN : L
Comment:	FULL SYSTEM (VGA 072)

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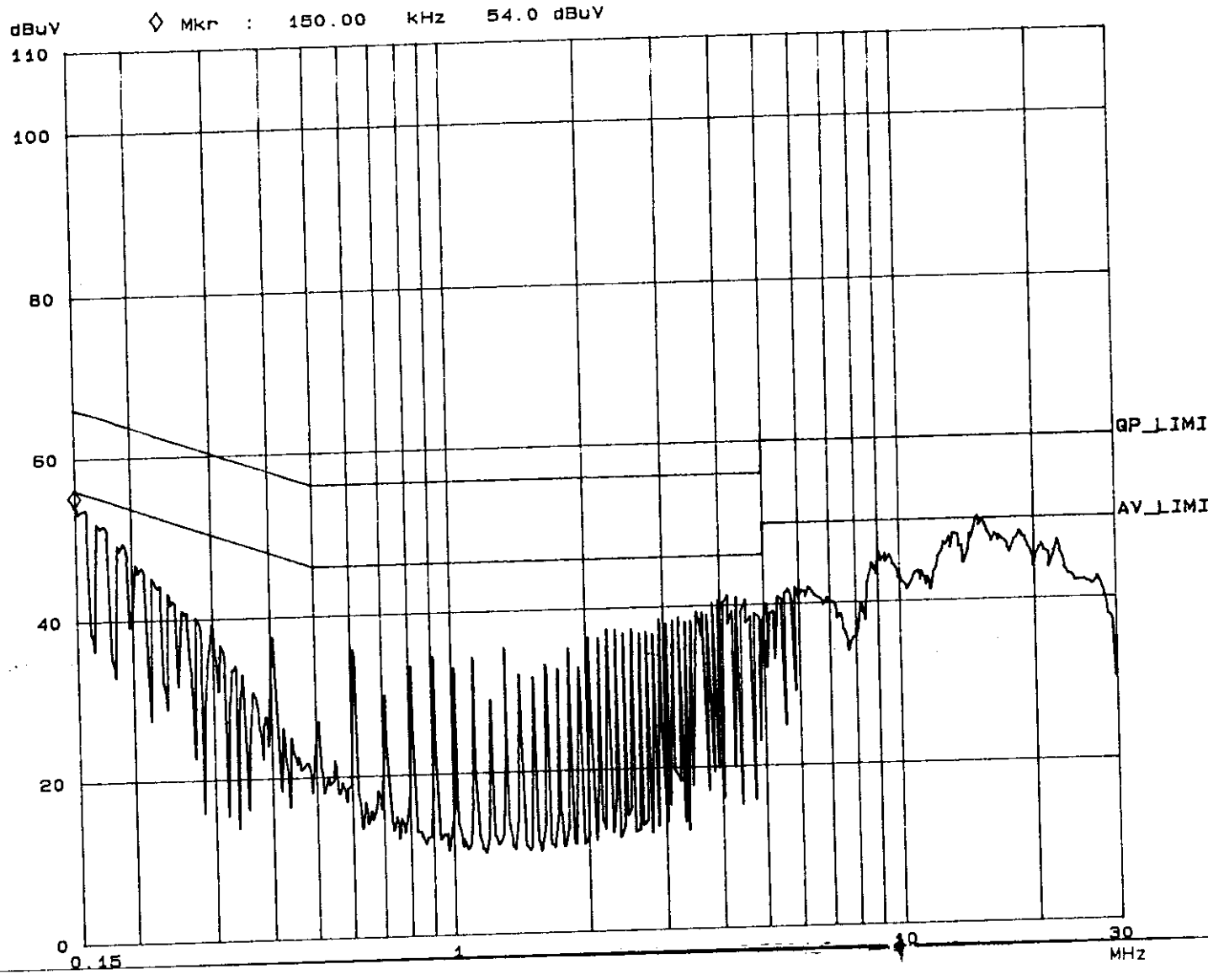
Tested by Nan Liu.

Fast Scan Settings (3 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150k	450k	3k	10k	PK	1ms	10dBLN	OFF	60dB
450k	5M	3k	10k	PK	1ms	10dBLN	OFF	60dB
5M	30M	3k	10k	PK	1ms	10dBLN	OFF	60dB



ADT CO. Shielded Room 3

27. Oct 98 13:08

CISPR 22 CLASS B

EUT: JT156A (TYPE NO: L51A)
Manuf: 1024X768 60K/75Hz
Test Spec: LISN : N
Comment: FULL SYSTEM (VGA 072)

Report No. F87102305
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Tested by Nan Liu

Fast Scan Settings (3 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150k	450k	3k	10k	PK	1ms	10dBLN	OFF	60dB
450k	5M	3k	10k	PK	1ms	10dBLN	OFF	60dB
5M	30M	3k	10k	PK	1ms	10dBLN	OFF	60dB