

Certification of Compliance

CFR 47 Part 15 Subpart B

Test Report File No. : 01-IST-179 **Date of Issue** : Dec. 19, 2001

Model(s) : DV-T8G5N-PQ / DAEWOO
: VR637HF / Thomson

Kind of Product : Video Cassette Recorder (TV Interface Device)

Applicant : Daewoo Electronics Co., Ltd.
Address : 543, Dangjung-Dong, Kunpo-City, Kyonggi-Do
435-030, Korea

Manufacturer : Daewoo Electronics Co., Ltd.
Address : 295, Gondan-dong, Kumi-city, Kyungsangbuk-do, Korea

Test Result

☒ **Positive**

☐ **Negative**

Reviewed By

Approved By



J.H. Lee / General Manager



G. Chung / Chief

- The test report with appendix consists of 115 pages.
- The test result only responds to the tested sample.
- It is not allowed to copy this report even partly without the allowance of IST EMC Laboratory.
- This equipment as for has been shown to be capable of continued compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4 1992.



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Information OF TUNERS

Manufacture	Manufacture Name	Daewoo Model Name
LG Innotek	TADC-H101F	LGTMI-US2-S
Alps KOREA	TMDH2-A50A	ALTMI-US3-S
Partsnic	DTMI-5NF03	DWTMI-US3-S
LG Innotek	TADC-H301F	LGTMI-US4-S
SAMSUNG	TCMN0682PA13B	SSTMI-US3-S
SANYO	VD065AW	SATMI-US4-S
ALPS KOREA	TMZH2-004A	ALTMI-US4-S

Appendix

A. The preliminary test results	109 -115
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INFORMATIONS OF TEST LABORATORY

EMC LABORATORY of IST Co., Ltd. *(FCC Filing Lab)*
San 21-8, Goan-Ri, Baekam-Myun, Yongin-City
Kyonggi-Do, 449-860, Korea
TEL : +82 31 333 4093 FAX : +82 31 333 4094

ENVIRONMENTAL CONDITIONS

Temperature	9
Humidity	40 %
Atmospheric pressure	999 mbar

POWER SUPPLY SYSTEM USED

Power supply system	120 Vac , 60 Hz
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PRODUCT INFORMATIONS

Power supply system	120Vac / 60Hz
Power consumption	17W
Video signal	EIA STANDARD NTSC COLOR
RF input impedance	75 ohm Unbal. (U/V one input)
RF output impedance	75 ohm Unbal.
VHF output signal	Channel 3 or 4 (selectable)
Video input signal	Phono type 1.0 ±0.2Vp-p sync negative 75ohms unbalance
Video output signal	Phono type 1.0 ±0.2Vp-p sync negative 75ohms unbalance
Audio input signal	Phono type, -8.8dBm, more then 47k ohms unbalanced
Audio output signal	Phono type, -5.8dBm, less then 1k ohms unbalanced
Dimension	360 × 91× 238 (W×H×D)

- EMC suppression device is not used during the test.
- Please refer to user's manual.

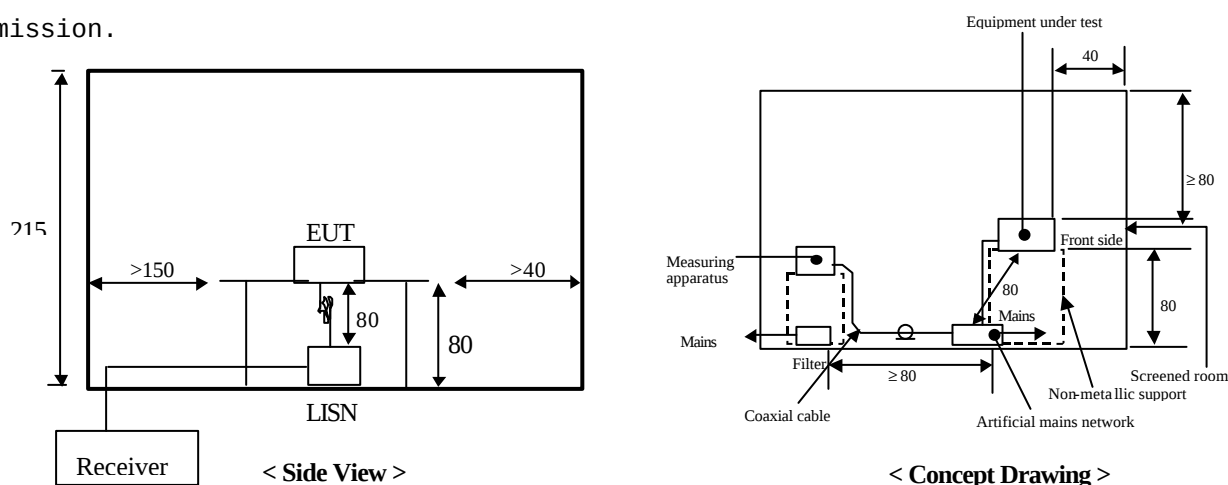
DESCRIPTIONS OF TEST

Conducted Emissions:

The measurement were performed over the frequency range of 0.45MHz to 30MHz using a 50Ω/50uH LISN as the input transducer to a Spectrum Analyzer or a Field Intensity Meter. The measurements were made with the detector set for "Peak" amplitude within an bandwidth of 10KHz or for "quasi-peak" within a bandwidth of 9KHz.

- Procedure of Test

The line-conducted facility is located inside a shielded room No.1. A 1m X 1.5m wooden table 80cm height is placed 40cm away from the vertical wall and 1.5m away from the other wall of the shielded room. The R/S ESH3-Z5 and EMC0 3825/2 LISN are bonded to bottom of the shielded room. The EUT is located on the wooden table with distance more than 80cm from the LISN and powered from the EMC0 LISN. The peripheral equipment is powered from the other LISN. Power to the LISNs are filtered by a noise cut power line filters. All electrical cables are shielded by braided tinned steel tubing with inner ϕ 1.2cm. If the EUT is a DC-powered device, power will be derived from the source power supply it normally will be powered from and this supply lines will be connected to the EMC0 LISN. All interconnecting cables more than 1m were shortened by non-inductive bundling to a 1m length. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating conditions. The RF output of the LISN was connected to the R/S receiver to determine the frequency producing the maximum emission from the EUT. The frequency producing the maximum level was reexamined using Quasi-Peak mode by manual measurement, after scanned by automatic Peak mode for frequency range from 0.45 to 30MHz. The bandwidth of the receiver was set to 10kHz. The EUT, peripheral equipment, and interconnecting cables were arranged and manipulated to maximize each EME emission.



DESCRIPTION OF TEST

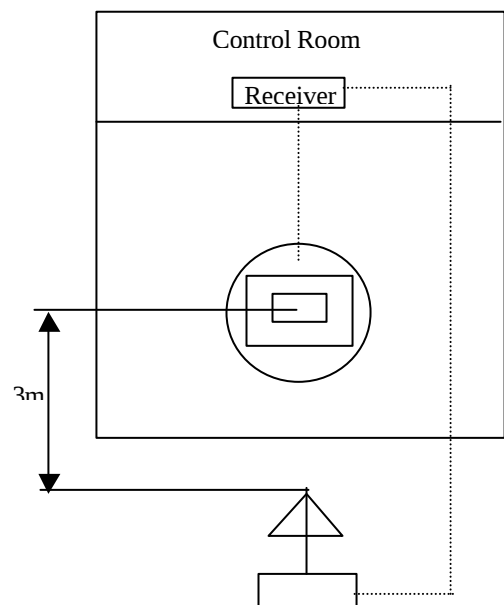
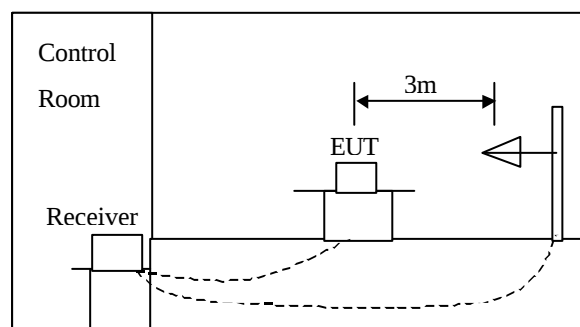
Radiated Emissions:

The measurement was performed over the frequency range of 30MHz to 1GHz using antenna as the input transducer to a Spectrum analyzer or a Field Intensity Meter. The measurement was made with the detector set for "quasi-peak" within a bandwidth of 120KHz.

- Procedure of Test

Preliminary measurements were made at 3 meter using bi-conical and log-periodic antennas, and spectrum analyzer to determine the frequency producing the max. emission in anechoic chamber. Appropriate precaution was taken to ensure that all emission from the EUT were maximized and investigated. The system configuration, mode of operation, turn table azimuth and height with respect to the antenna were noted for each frequency found. The spectrum was scanned from 40MHz to 300MHz using S/B bi-conical antenna and 300 to 1000MHz using S/B log-periodic antenna. Above 1GHz, linearly polarized double ridge horn antennas were used. Final measurements were made at open site with 3-meters test distance using S/B bi-log antenna or horn antenna. The OATS have been verified in regular for its normalized site attenuations. The test equipment was placed on a wooden table. Sufficient time for the EUT, peripheral equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. Each frequency found during pre-scan measurements was re-examined by manual. The detector function was set to CISPR quasi-peak mode and the bandwidth of the receiver was set to 120kHz or 1MHz depending on the frequency of type of signal. The EUT, peripheral equipment and interconnecting cables were re-configured to the set-up producing the max. emission for the frequency and were placed on top of a 0.8-meter high nonmetallic 1 x 1.5 meter table. The EUT, peripheral equipment, and interconnecting cables were re-arranged and manipulated to maximize each emission. The turntable containing the system was rotated; the antenna height was varied 1 to 4 meters and stopped at the azimuth or height producing the maximum emission. Each emission was maximized by: varying the mode of operation to the EUT and/or peripheral equipment and changing the polarity of the antenna, whichever determined the worst-case emission.

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DESCRIPTION OF TEST

Output Signal level measurements :

The RF output of the TV interface device was fed to the TV receiver via coaxial cable. The signal level was measured by direct connection to the spectrum analyzer with 50/75 ohm matching transformer between the spectrum analyzer and the TV interface device. The RF output signal level measured RMS voltage was the highest RF level present at the output terminals during normal use of the device. Measurements were made of the levels of both the visual(61.25 MHz) and aural(71.25 MHz) of TV channel 3 and 4. The voltage corresponding to the peak envelope power of the video modulated signal during maximum amplitude peaks across a resistance(R ohms) matching the rated output impedance of the device, must not exceed 346.4 times the square root of (R)[uV] for all other TV interface device. The voltage corresponding to peak envelope power of the audio modulated signal, if provided by the TV interface device, must not exceed 77.5 times the square root of (R)[uV] for all other TV interface device.(Sec 15.115 (b).(1).(ii))

Output Terminal Conducted Spurious Emission :

The RF output signal was fed to the TV receiver with coaxial cable. The measurements were made by direct connection to the spectrum analyzer and TV interface device with 50/75 ohm matching transformer. The frequency range 30 to 1000MHz was investigated for significant emission. The maximum RMS voltage of any emission appearing on frequencies removed by than 4.6MHz below or 7.4MHz above the video carrier frequency on which the TV interface device is operated must not exceed 10.95 times the square root of (R) [uV](Sec 15.115 (b).(2).(ii))

Transfer Switch Isolation Measurement :

The measurements were made of the maximum RMS voltage at the antenna terminals of the switch for all positions of the transfer switch. The maximum voltage corresponds to the peak envelope power of the video signal during maximum amplitude peaks. In either position of the receiver transfer switch, the maximum voltage at the receiving antenna input terminals of the switch when terminated with a resistance (R ohms) matching the rated impedance of the antenna input of the switch, must not exceed 0.346 times the square root of (R) [uV]. (Sec 15.115 (c).(1).(ii))

SUMMARY

■ Conducted Emission

The requirements are	● MET	○ Not MET
Minimum limit margin	5.0dB at 28.637 MHz	
Maximum limit exceeding		

Remarks : With live phase, ch3 play mode (Tuner: ALTMI-US3-S)

■ Radiated Emission

The requirements are	● MET	○ Not MET
Minimum limit margin	5.7 dB at 54.6 MHz	
Maximum limit exceeding		

Remarks : Limits are kept with more than 5dB margin (Tuner: LGTMI-US2-S)

■ Output Signal Level Measurements

The requirements are	● MET	○ Not MET
Minimum limit margin		
Maximum limit exceeding		

Remarks : Limits are kept with more than 9dB margin

■ Output Terminal Conducted Spurious Emission

The requirements are	● MET	○ Not MET
Minimum limit margin		
Maximum limit exceeding		

Remarks : Limits are kept with more than 10dB margin

■ Transfer Switch Isolation Measurements

The requirements are	● MET	○ Not MET
Minimum limit margin		
Maximum limit exceeding		

Remarks : Limits are kept with more than 3dB margin

Prepared By

Note :

- ■ means the test is applicable, □ is not applicable.



H.C. Kim / EMC Engineer

TEST CONDITIONS AND DATA

Conducted Emissions

Test Equipment Used

<u>Model Name</u>	<u>Manufacturer</u>	<u>Description</u>	<u>Next Cal. Date</u>
ESH3	Rohde Schwarz	Receiver	Jun. 16, 2002
ESH3-Z2	Rohde Schwarz	Pulse Limiter	Jun. 13, 2002
EZM	Rohde Schwarz	Spectrum monitor	-
3825/2	EMCO	LISN	Jun. 13, 2002
PM5515	Philips	Pattern Generator	Jun. 20, 2002

External Peripherals

<u>Device Description</u>	<u>Model Name</u>	<u>Manufacture</u>	<u>FCC Compliance Information</u>
TV Receiver	F19430	Daewoo	Verification

Test Program Playback and record

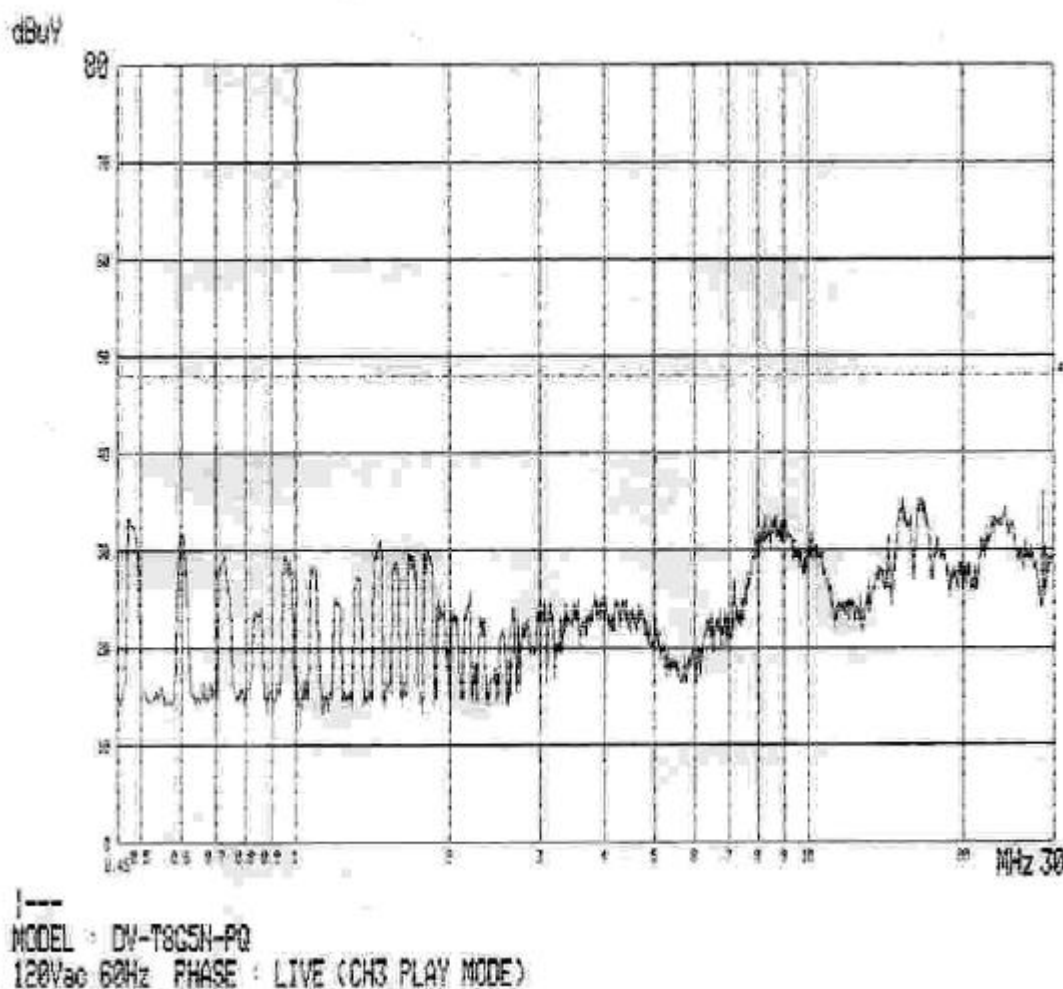
Test Area Shielded room #3

Note :

- Find the test data in following page(s) 9 to 36.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



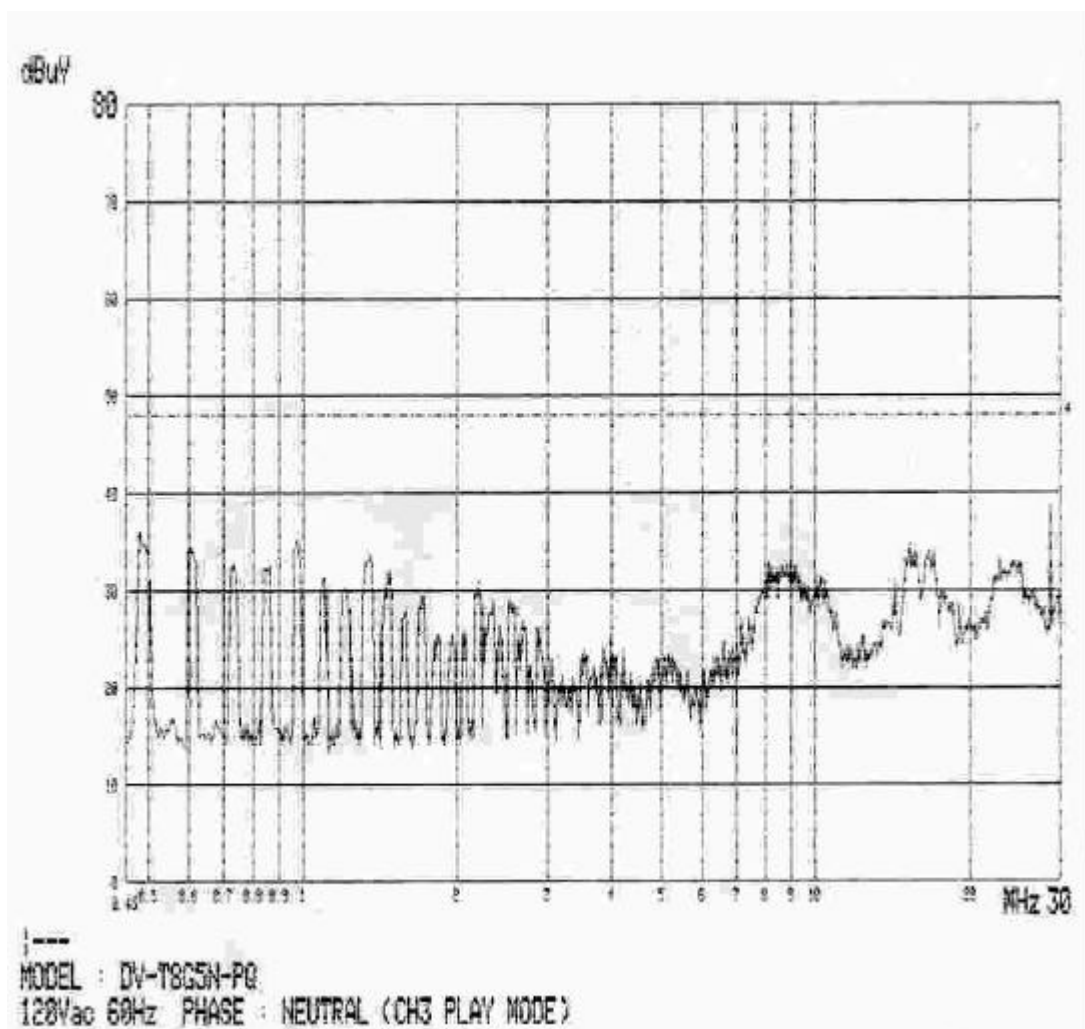
Tuner : LGTMI-US2-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.487	30.10	48.00	17.90
0.605	29.60	48.00	18.40
1.467	28.30	48.00	19.70
16.573	29.50	48.00	18.50
28.637	35.20	48.00	12.80

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



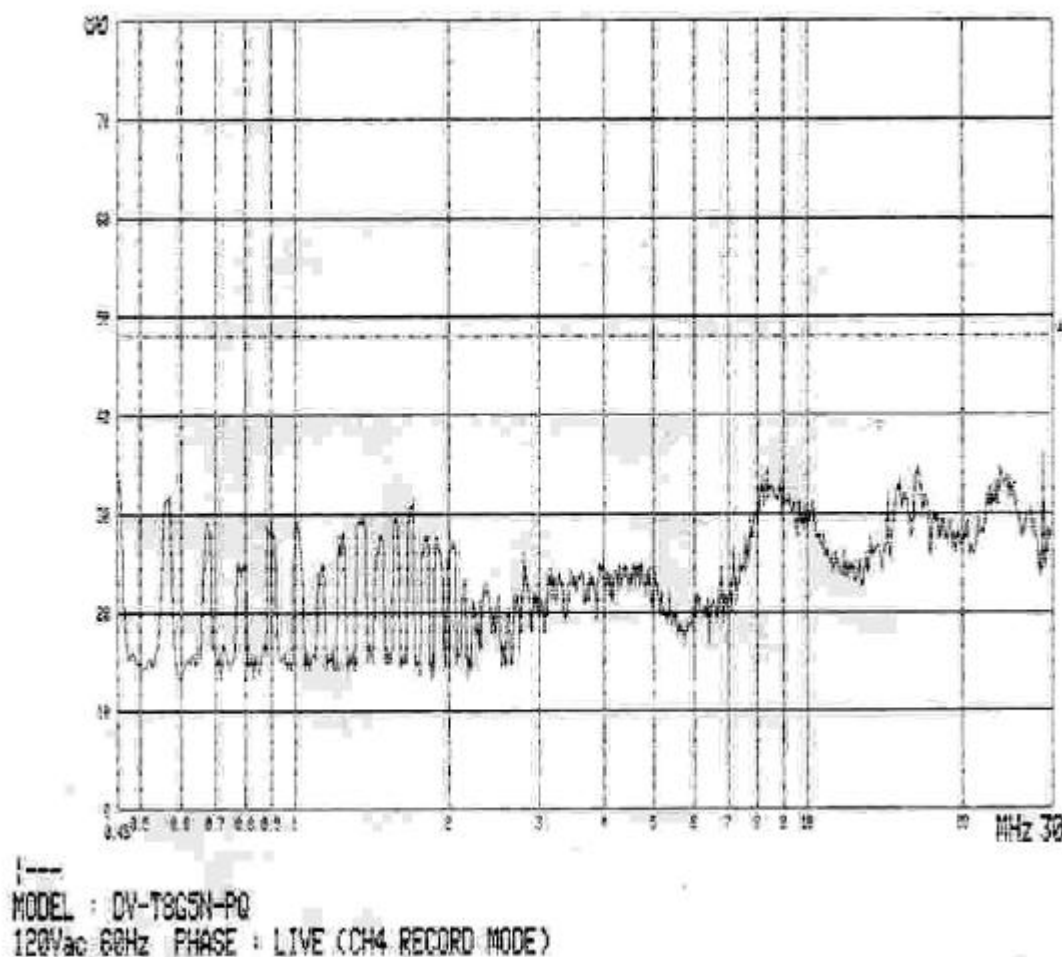
Tuner : LGTMI-US2-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.489	33.80	48.00	14.20
0.611	32.80	48.00	15.20
0.972	32.50	48.00	15.50
15.241	29.00	48.00	19.00
28.637	36.90	48.00	11.10

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



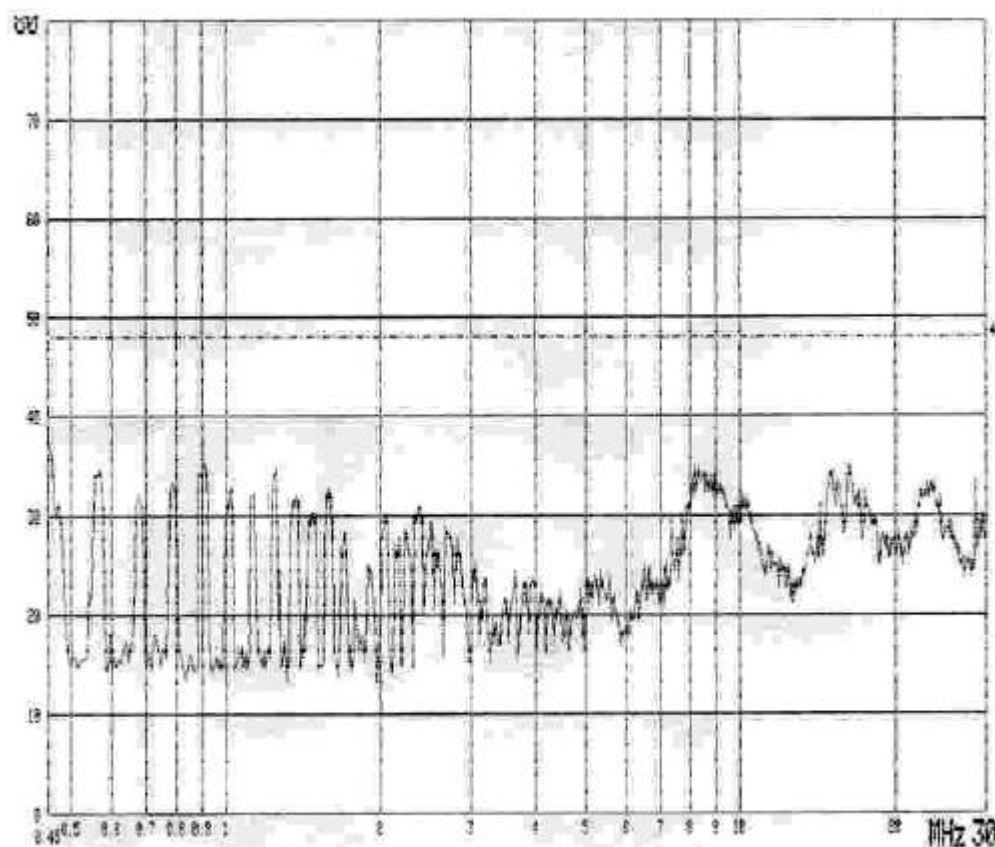
Tuner : LGTMI-US2-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.571	28.30	48.00	19.70
1.716	28.40	48.00	19.60
8.528	31.60	48.00	16.40
16.304	32.30	48.00	15.70
28.637	42.40	48.00	5.60

Note : The final evaluation for frequency 28.663 with insertion loss 0.8dB meet the requirement with 4.8dB margin.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



MODEL: DV-T8G5N-PQ
120Vac 60Hz PHASE: NEUTRAL (CH4 RECORD MODE)

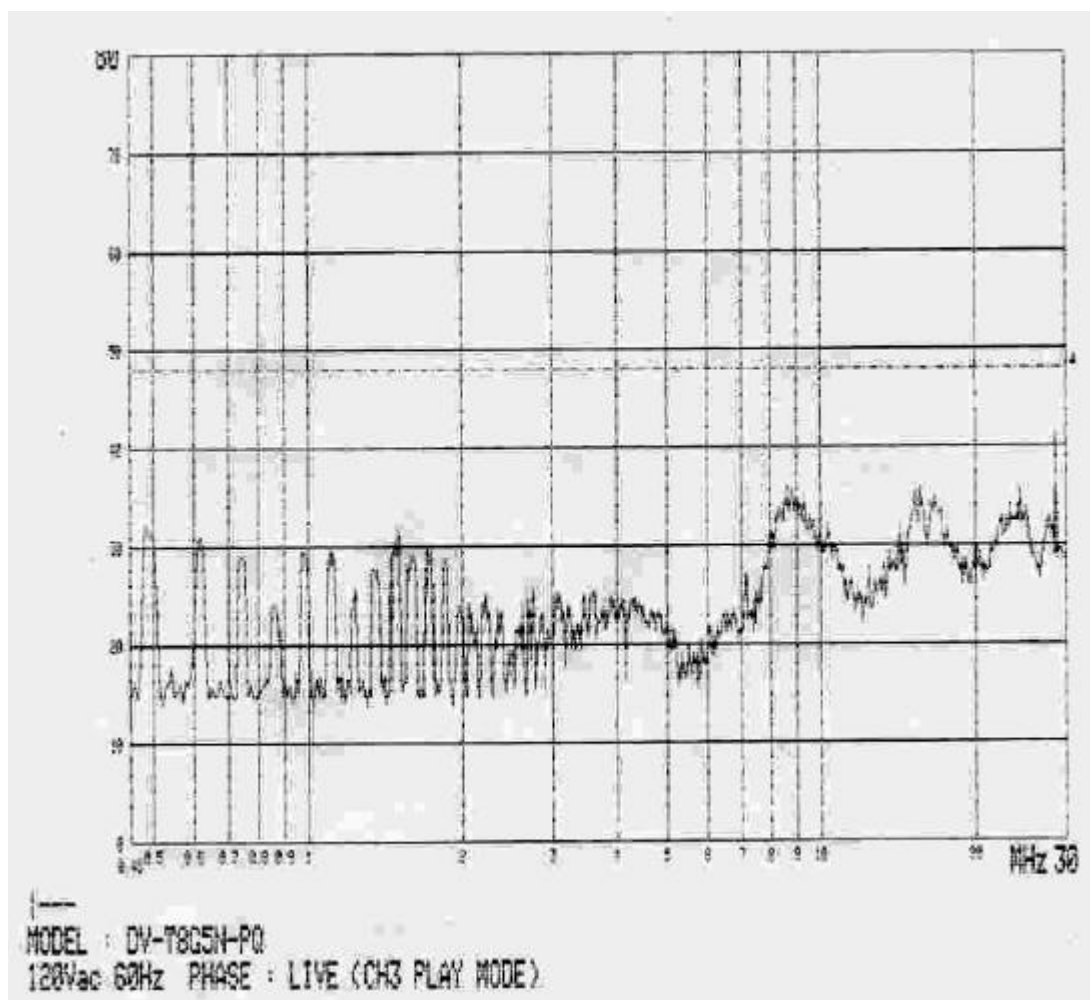
Tuner: LGTMI-US2-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.451	34.20	48.00	13.80
0.567	32.70	48.00	15.30
0.906	32.40	48.00	15.60
1.242	31.80	48.00	16.20
16.264	29.20	48.00	18.80

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



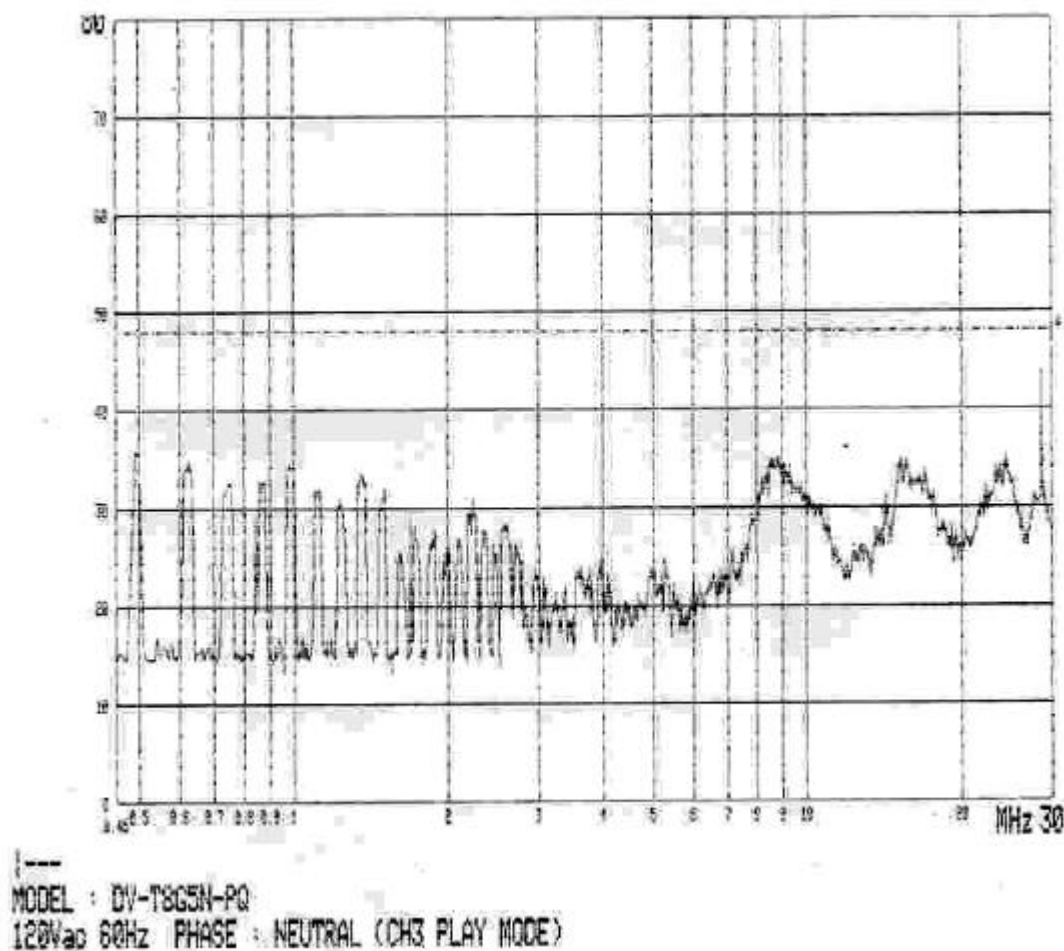
Tuner: **ALTM1-US3-S**

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.497	30.10	48.00	17.90
0.618	29.60	48.00	18.40
8.613	32.00	48.00	16.00
15.608	30.20	48.00	17.80
28.637	39.70	48.00	8.30

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



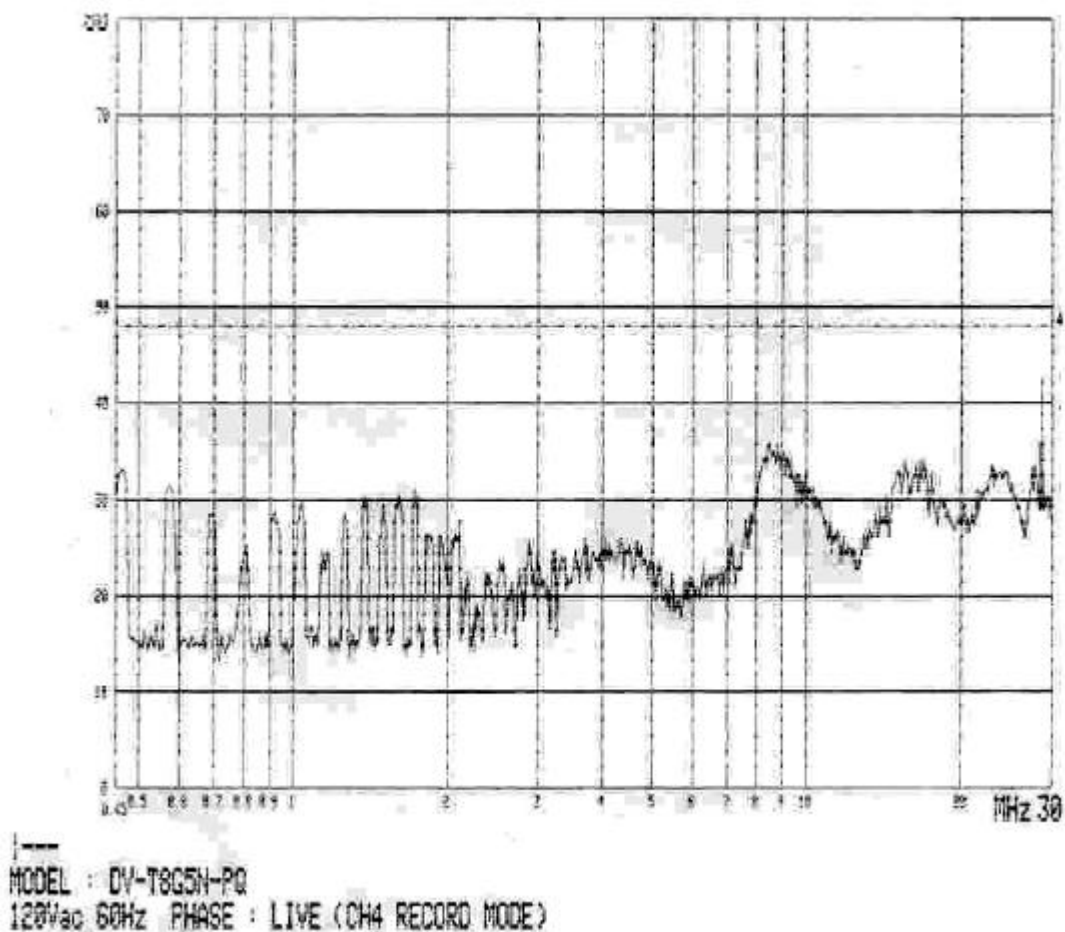
Tuner: ALTMI-US3-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.492	33.70	48.00	14.30
0.618	33.00	48.00	15.00
8.614	31.60	48.00	16.40
15.622	29.90	48.00	18.10
28.637	43.00	48.00	5.00

Note : The final evaluation for frequency 28.637 with insertion loss 0.8dB meet the requirement with 4.2dB margin.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



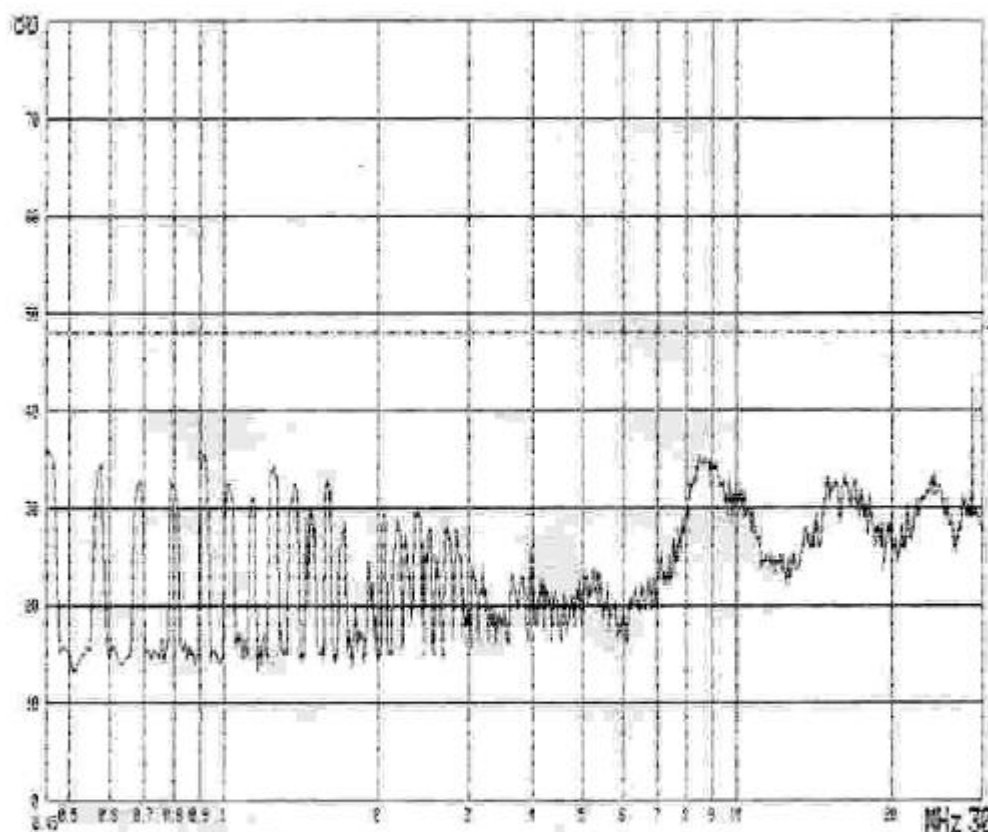
Tuner: **ALTM1-US3-S**

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.451	31.30	48.00	16.70
0.567	29.80	48.00	18.20
0.923	26.30	48.00	21.70
8.440	31.20	48.00	16.80
28.637	40.50	48.00	7.50

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



MODEL : DV-T3G5N-PQ
120Vac 60Hz PHASE : NEUTRAL (CH4 RECORD MODE)

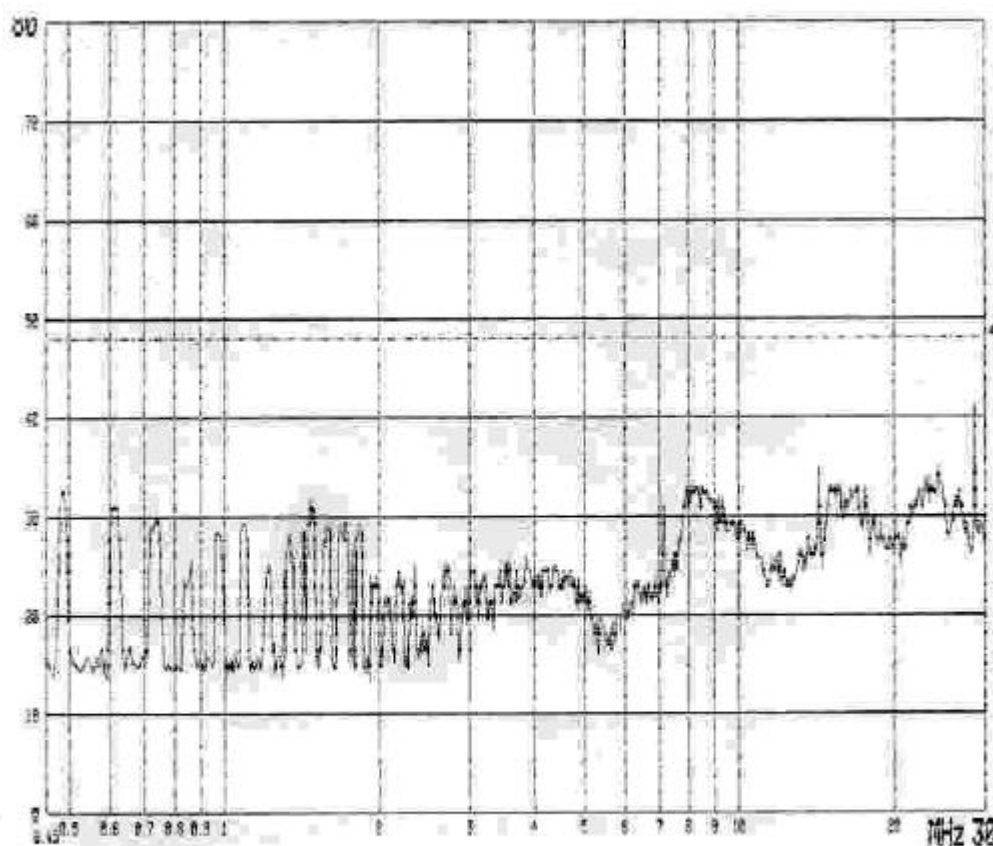
Tuner : ALTMI-US3-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.457	34.10	48.00	13.90
0.578	32.90	48.00	15.10
0.922	32.60	48.00	15.40
8.465	33.80	48.00	14.20
28.637	42.50	48.00	5.50

Note : The final evaluation for frequency 28.637 with insertion loss 0.8dB meet the requirement with 4.7dB margin.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



MODEL : DV-T8G5N-PQ
120Vac 50Hz PHASE : LIVE (CH3 PLAY MODE)

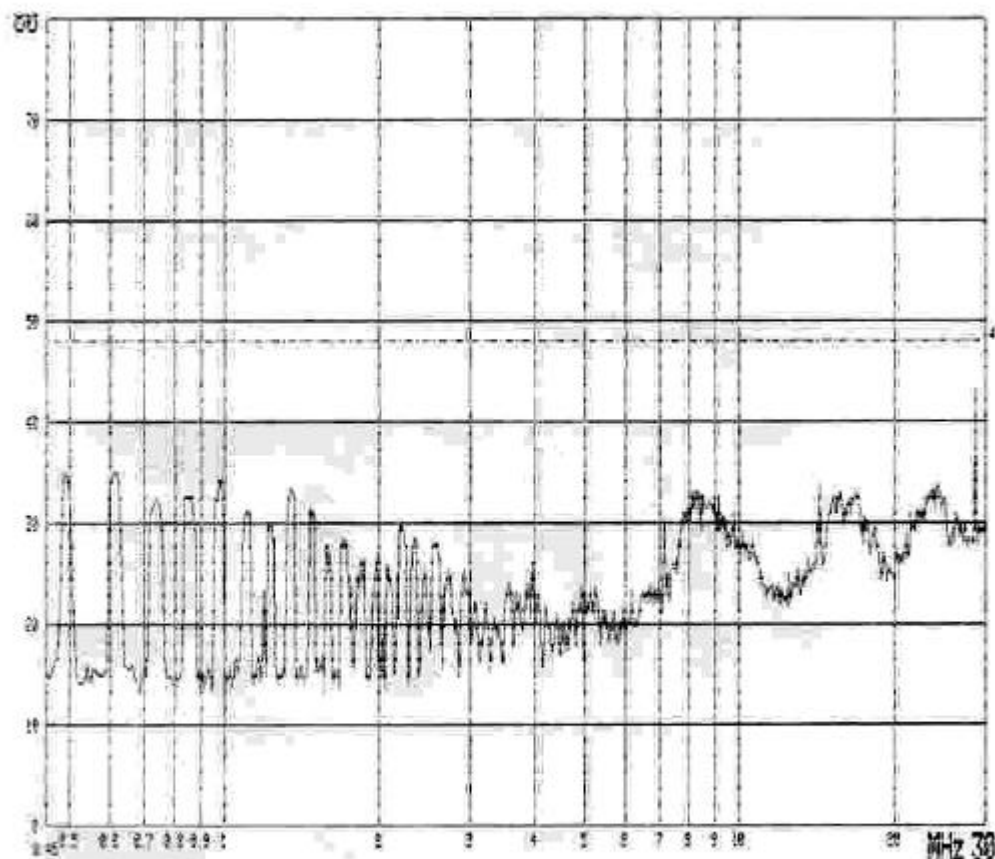
Tuner : DWTMI-US3-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.487	30.20	48.00	17.80
0.612	29.40	48.00	18.60
1.465	28.10	48.00	19.90
14.318	33.60	48.00	14.40
28.637	39.80	48.00	8.20

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



MODEL : DV-T805N-PQ
120Vac 60Hz PHASE : NEUTRAL (CH3 PLAY MODE)

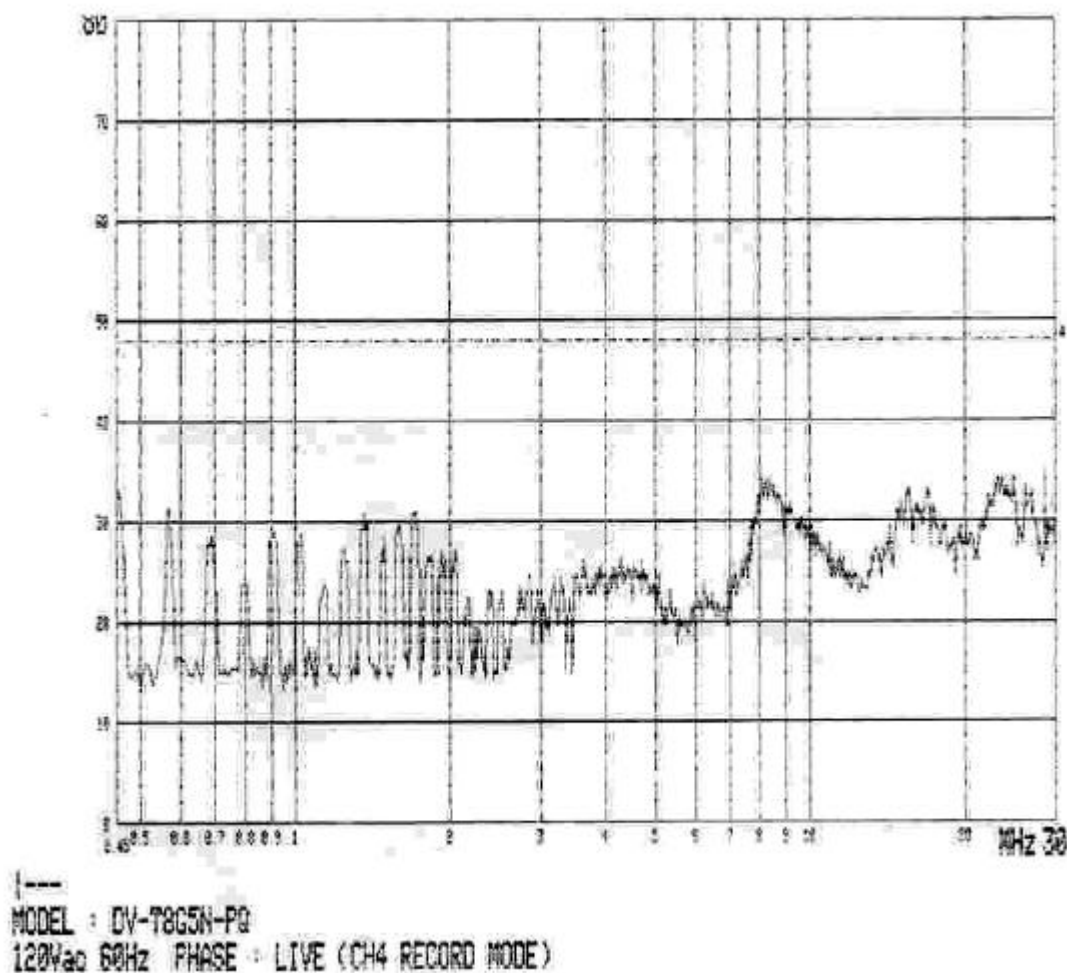
Tuner : DWTMI-US3-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.487	33.80	48.00	14.20
0.619	32.90	48.00	15.10
0.986	32.40	48.00	15.60
8.267	30.90	48.00	17.10
28.637	41.20	48.00	6.80

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



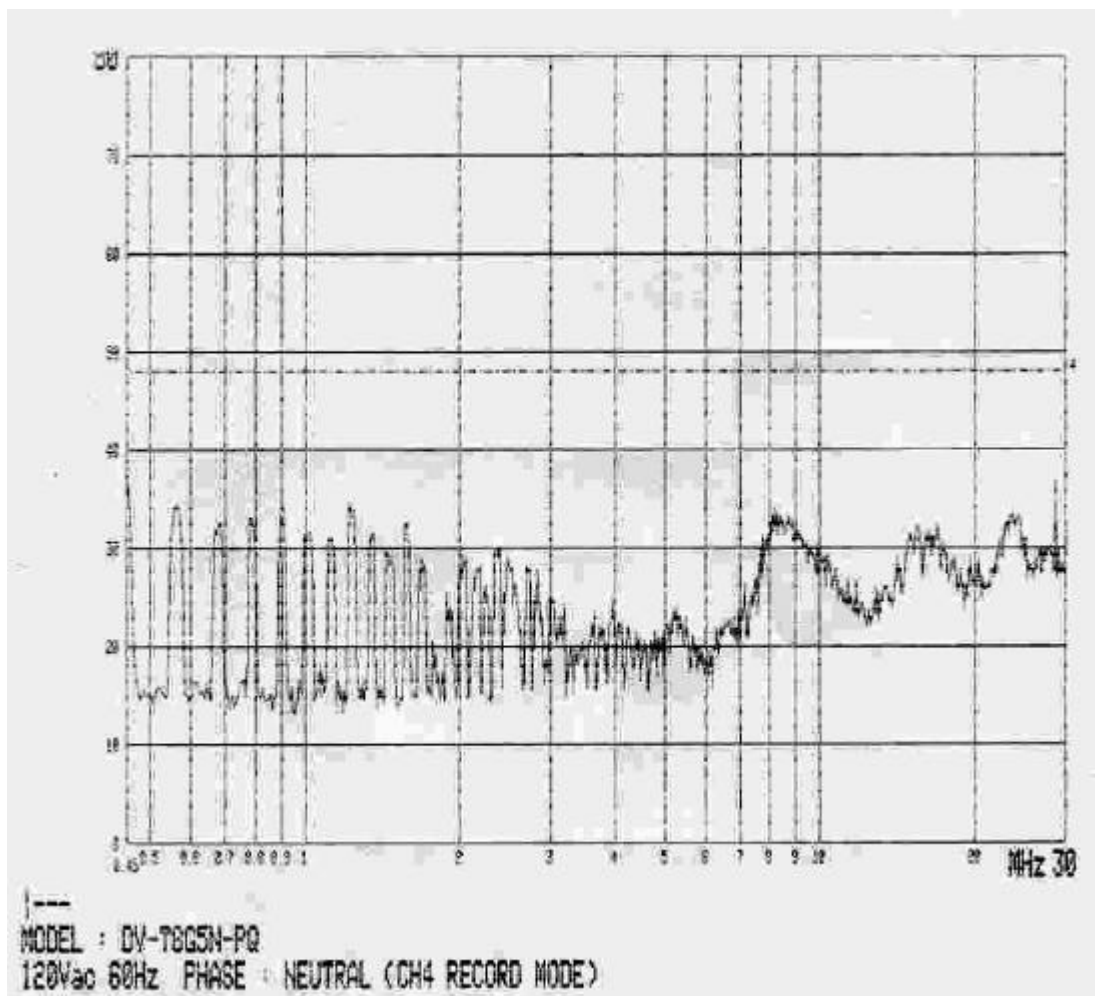
Tuner: DWTMI-US3-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.454	31.60	48.00	16.40
0.569	30.00	48.00	18.00
8.087	33.00	48.00	15.00
15.474	28.70	48.00	19.30
28.637	34.00	48.00	14.00

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



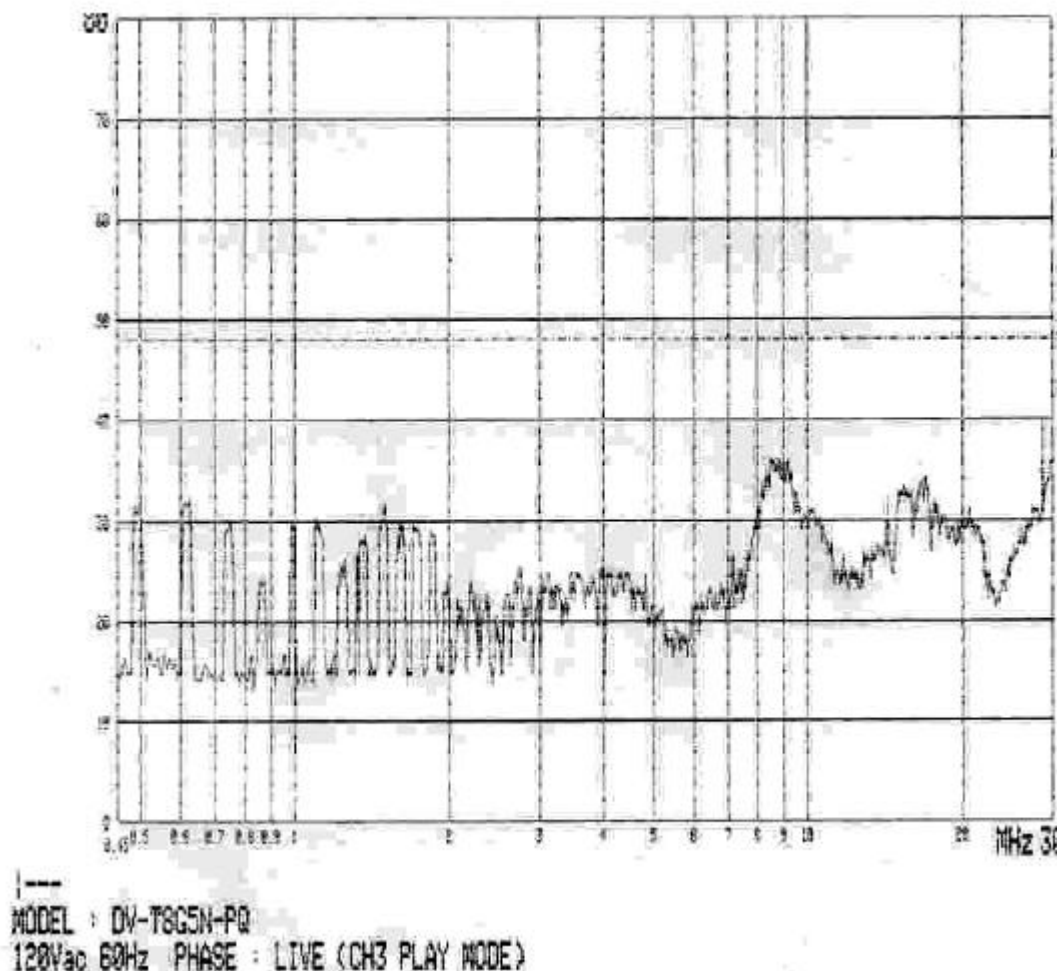
Tuner: DWTMI-US3-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.451	34.20	48.00	13.80
0.572	32.60	48.00	15.40
1.241	31.30	48.00	16.70
8.166	31.70	48.00	16.30
28.637	35.70	48.00	12.30

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



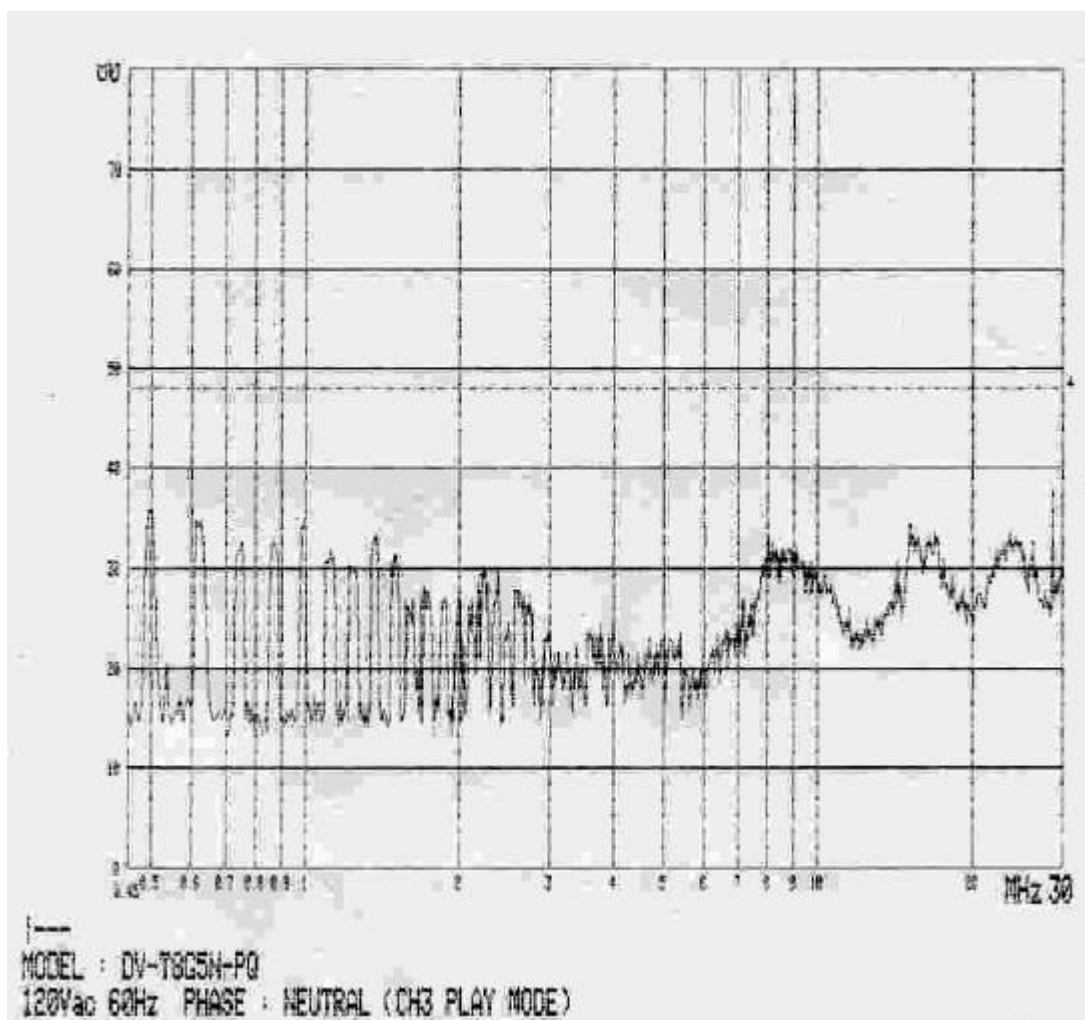
Tuner : LGTMI-US4-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.496	30.50	48.00	17.50
0.622	29.80	48.00	18.20
1.495	28.90	48.00	19.10
8.628	30.40	48.00	17.60
28.637	35.50	48.00	12.50

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



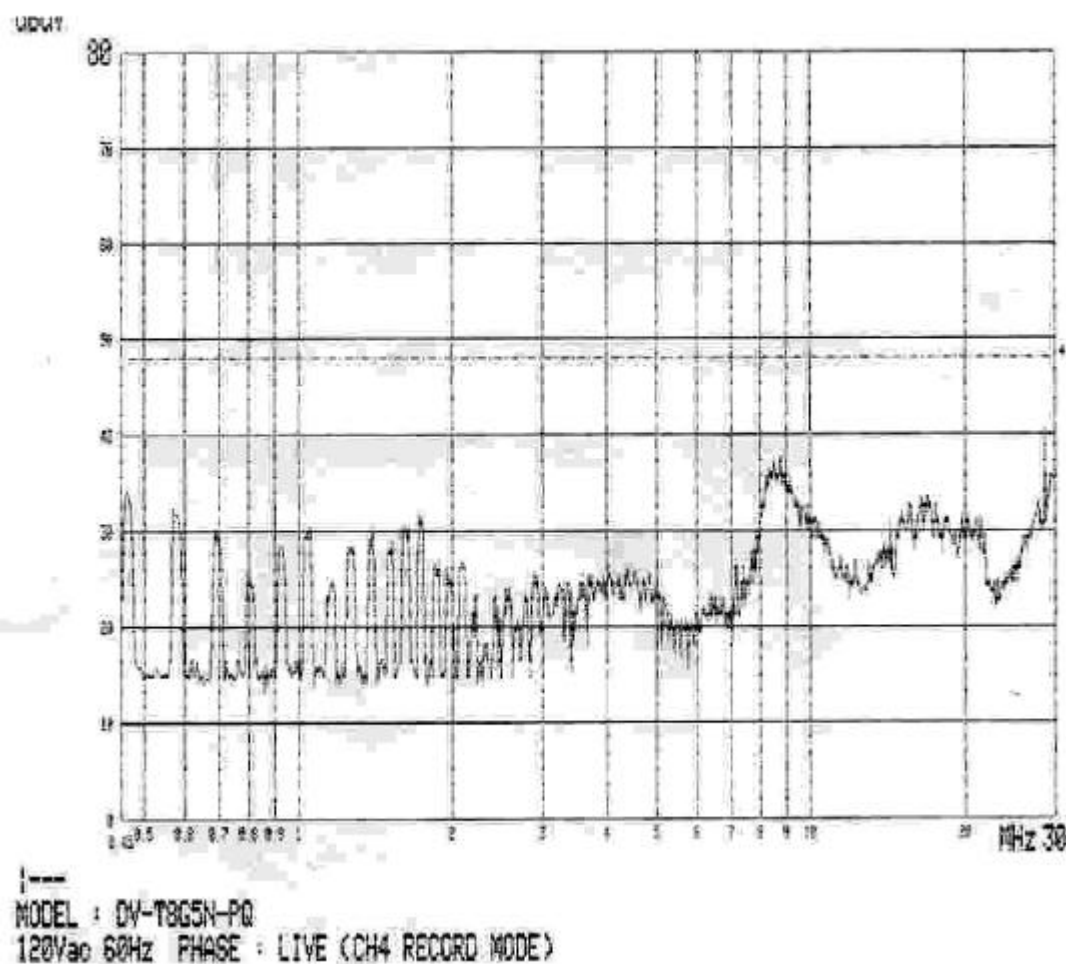
Tuner: LGTMI-US4-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.499	34.00	48.00	14.00
0.623	33.20	48.00	14.80
1.499	28.80	48.00	19.20
15.149	28.50	48.00	19.50
28.637	36.50	48.00	11.50

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



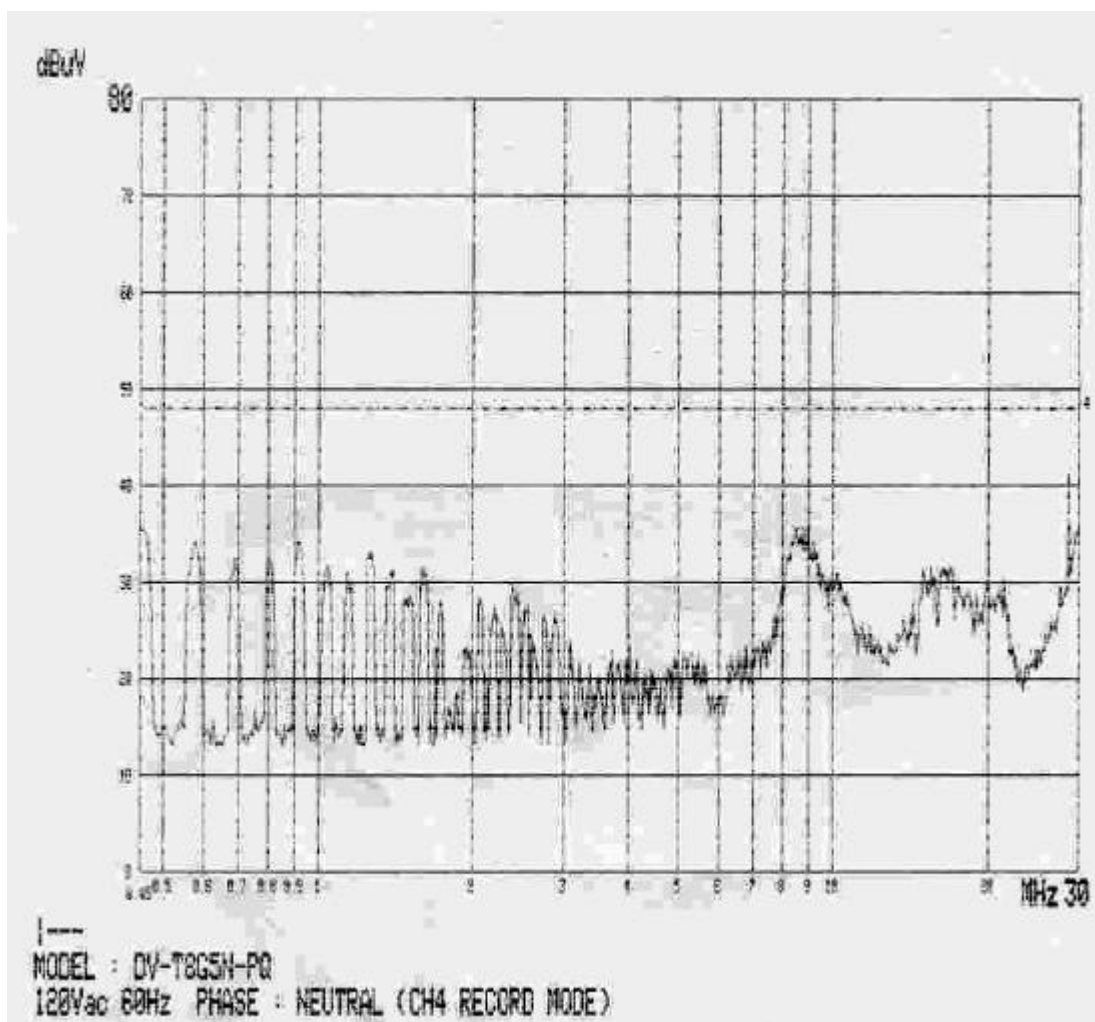
Tuner: LGTMI-US4-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.462	31.40	48.00	16.60
0.580	30.50	48.00	17.50
0.920	26.70	48.00	21.30
8.764	33.30	48.00	14.70
28.637	38.50	48.00	9.50

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



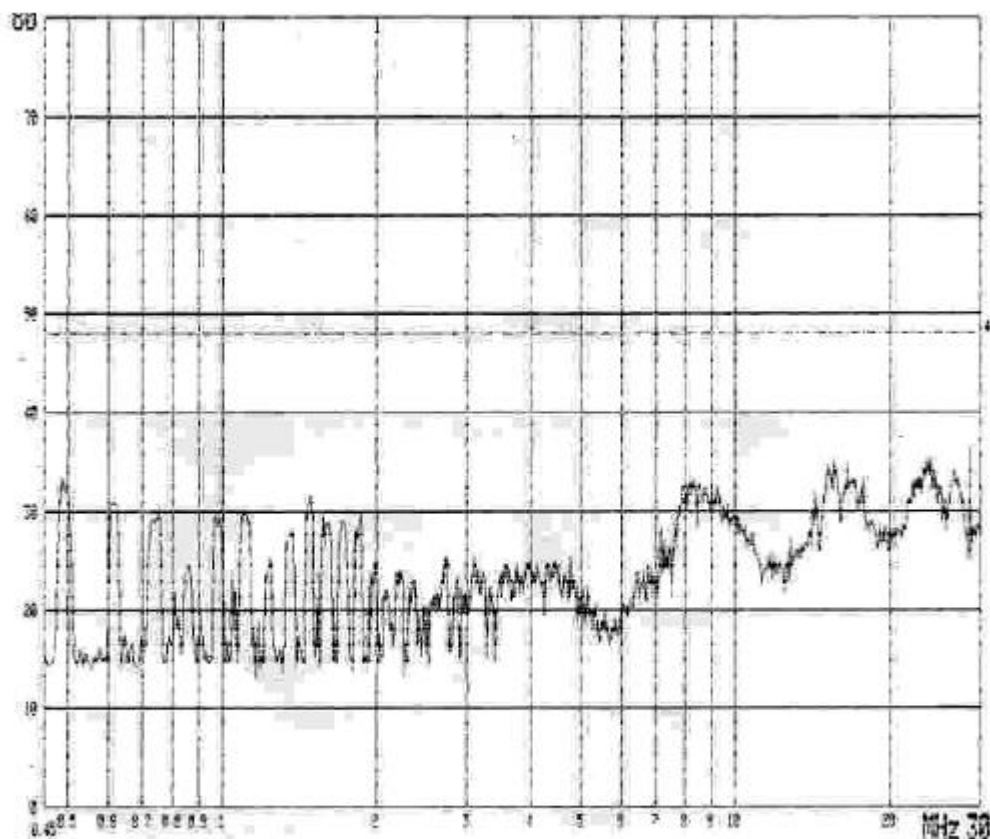
Tuner : LGTMI-US4-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.461	33.40	48.00	14.60
0.576	32.80	48.00	15.20
0.929	32.90	48.00	15.10
8.528	31.80	48.00	16.20
28.637	39.30	48.00	8.70

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



MODEL : DV-T8G5N-PQ
120Vac 60Hz PHASE : LIVE (CH3 PLAY MODE)

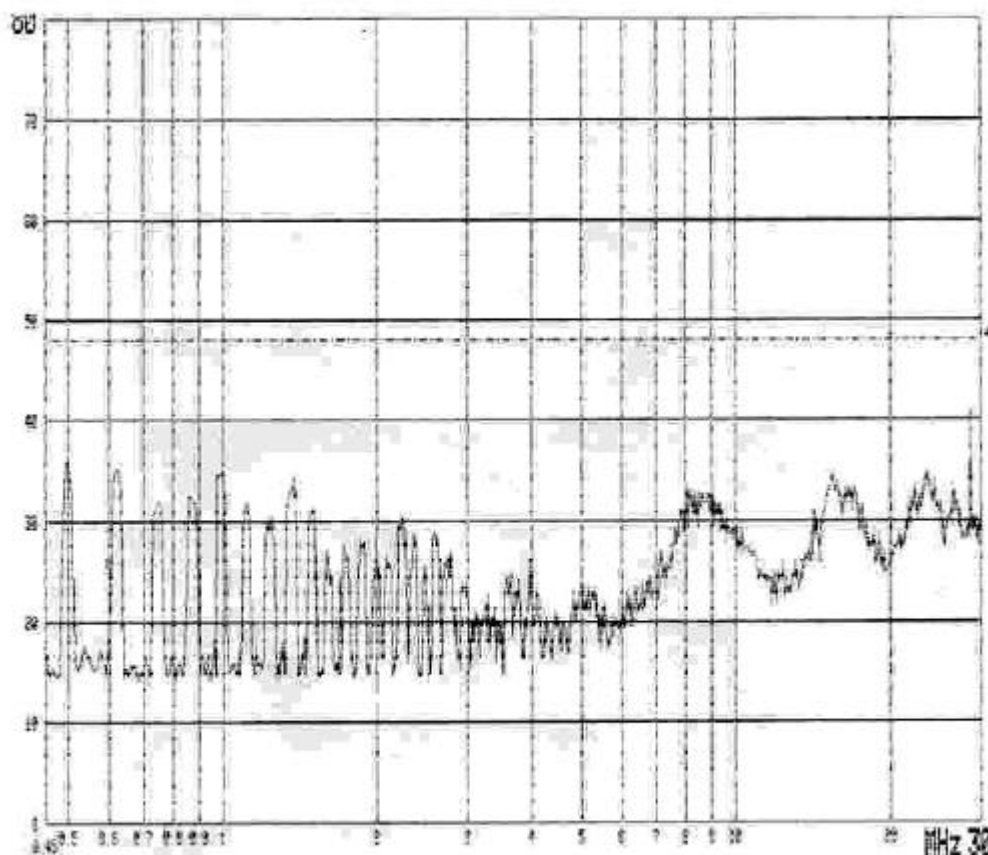
Tuner : SSTMI-US4-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.493	30.30	48.00	17.70
0.752	26.70	48.00	21.30
8.282	26.30	48.00	21.70
28.637	35.80	48.00	12.20

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



MODEL : DV-T8G5N-PQ
120Vac 60Hz PHASE : NEUTRAL (CH3 PLAY MODE)

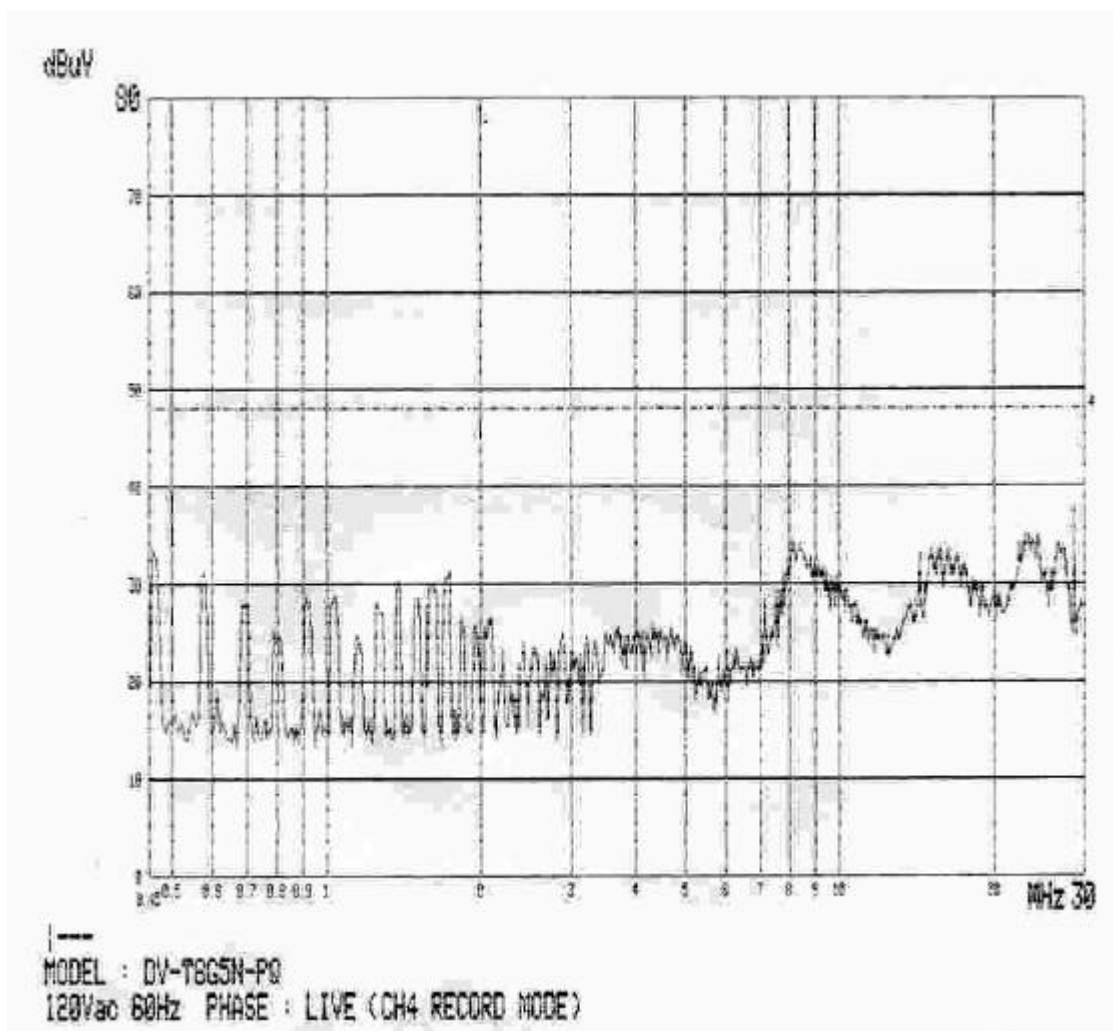
Tuner : SSTMI-US4-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.493	33.80	48.00	14.20
0.622	33.10	48.00	14.90
0.992	32.50	48.00	15.50
15.385	28.10	48.00	19.90
28.637	39.30	48.00	8.70

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



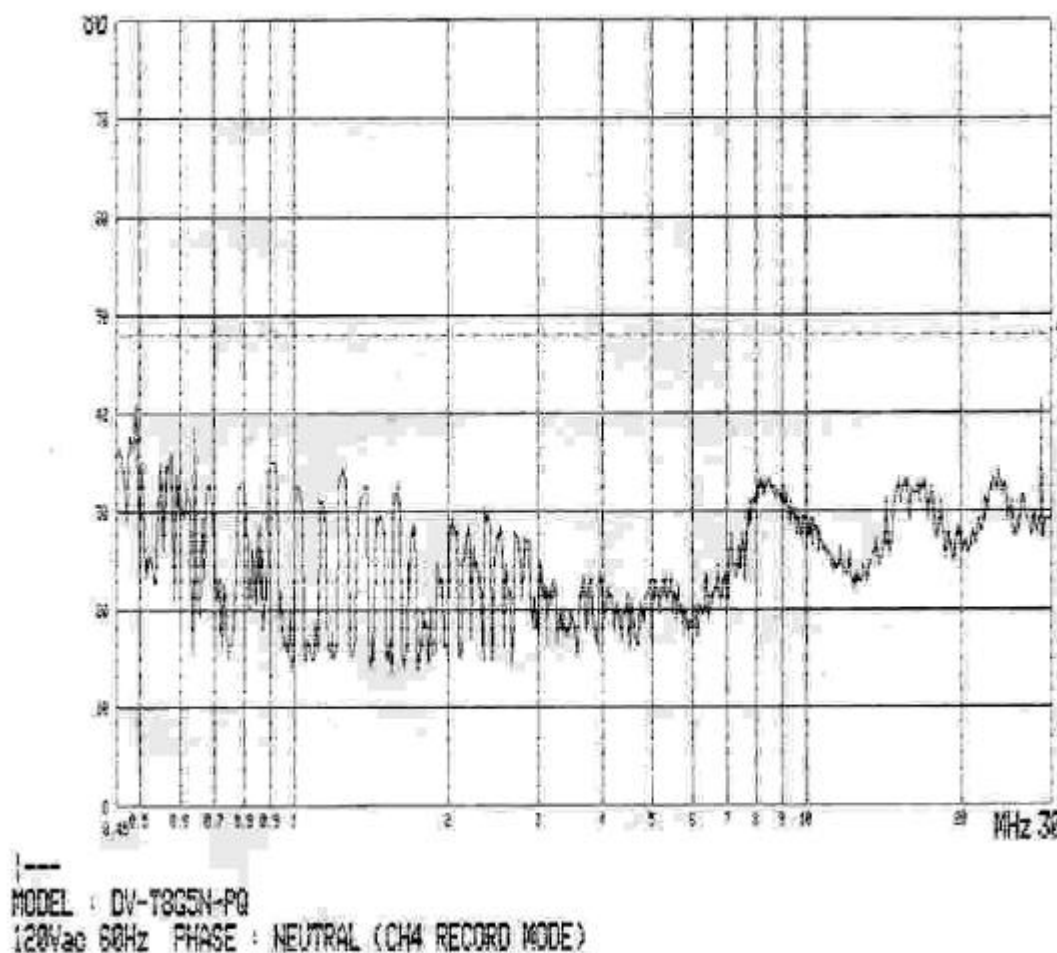
Tuner: SSTMI-US4-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.457	31.20	48.00	16.80
0.699	26.30	48.00	21.70
8.087	32.70	48.00	15.30
28.637	36.30	48.00	11.70

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



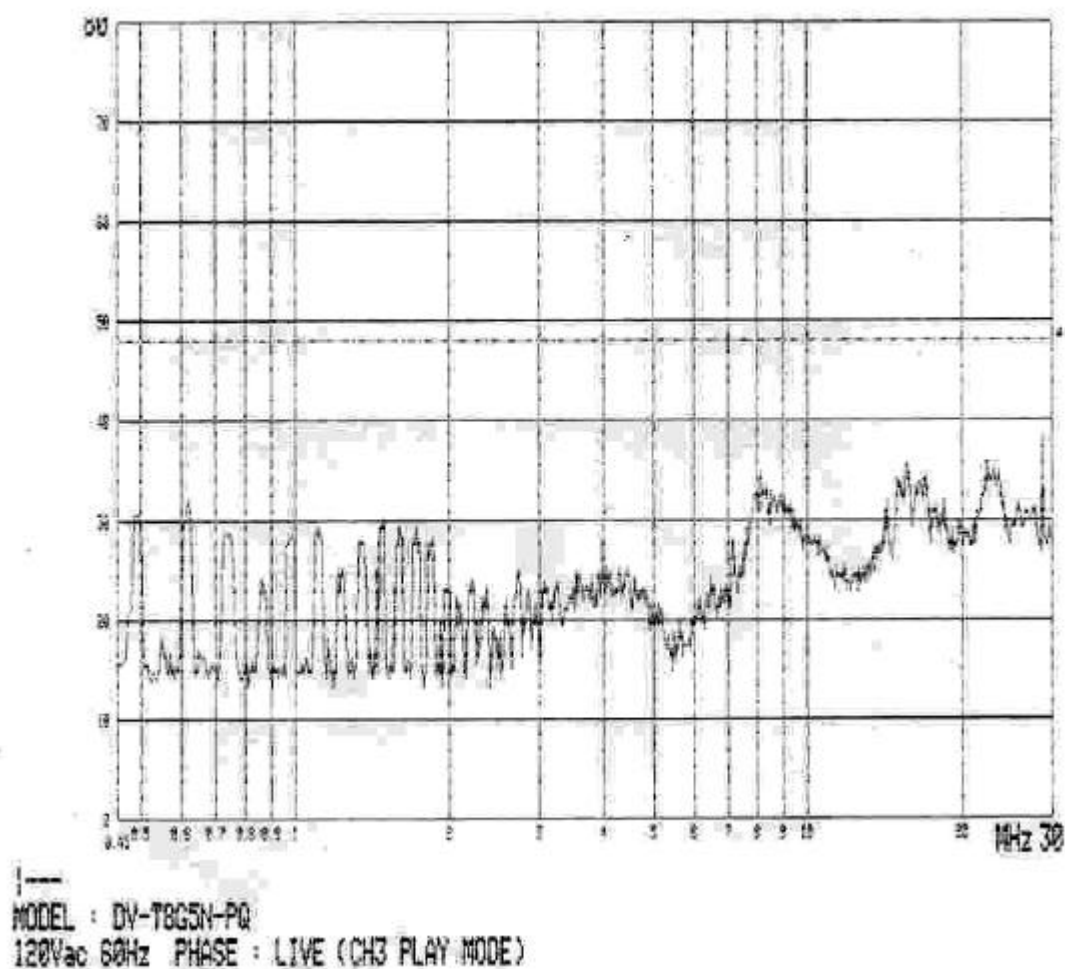
Tuner : SSTMI-US4-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.458	34.10	48.00	13.90
0.695	30.00	48.00	18.00
0.919	32.40	48.00	15.60
28.637	39.90	48.00	8.10

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



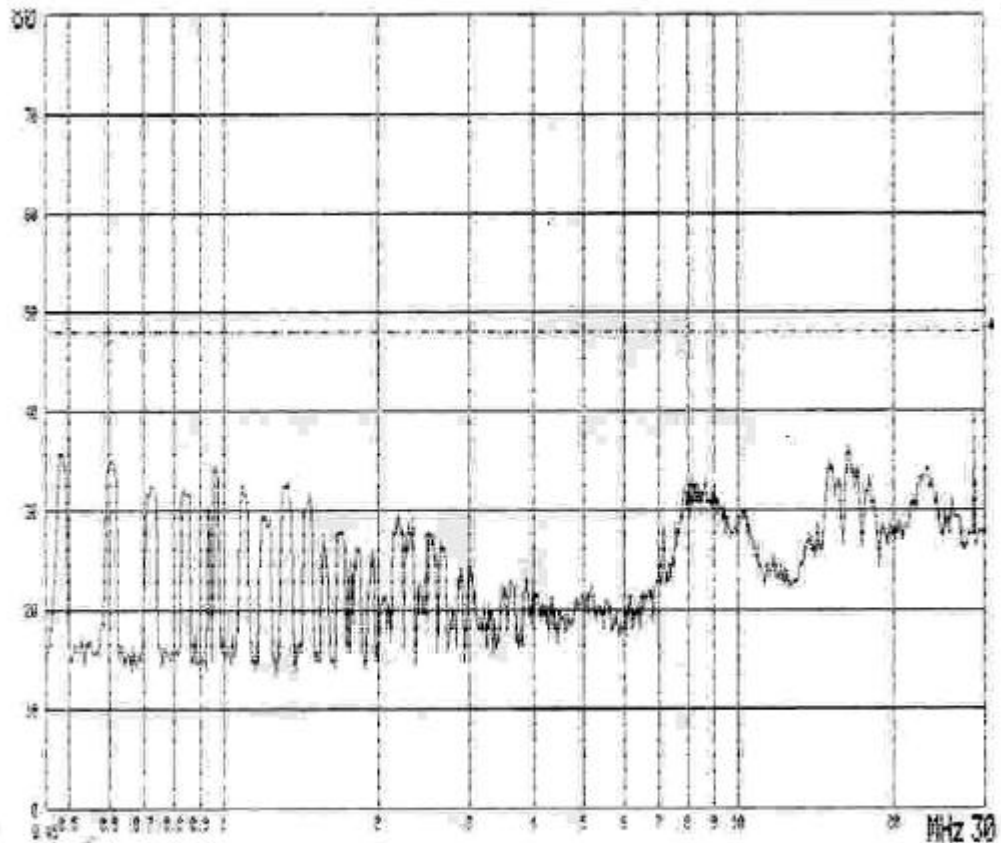
Tuner : SATMI-US4-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.489	30.10	48.00	17.90
0.611	28.10	48.00	19.90
8.093	32.20	48.00	15.80
22.997	29.70	48.00	18.30
28.637	37.40	48.00	10.60

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



MODEL : DV-T8G5N-PQ
120V_{ac} 60Hz PHASE : NEUTRAL (CH3 PLAY MODE)

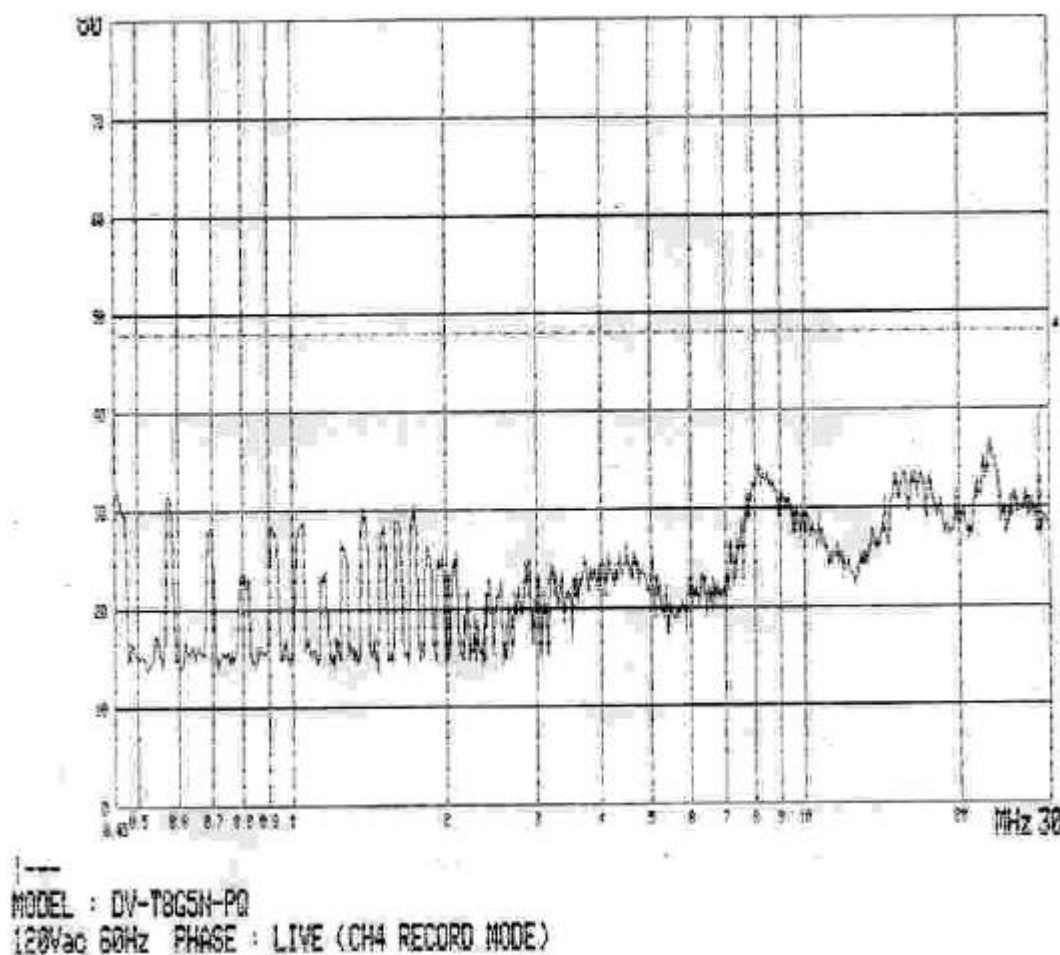
Tuner : SATMI-US4-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.492	33.60	48.00	14.40
0.616	32.60	48.00	15.40
0.993	32.00	48.00	16.00
16.263	29.80	48.00	18.20
28.637	38.30	48.00	9.70

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



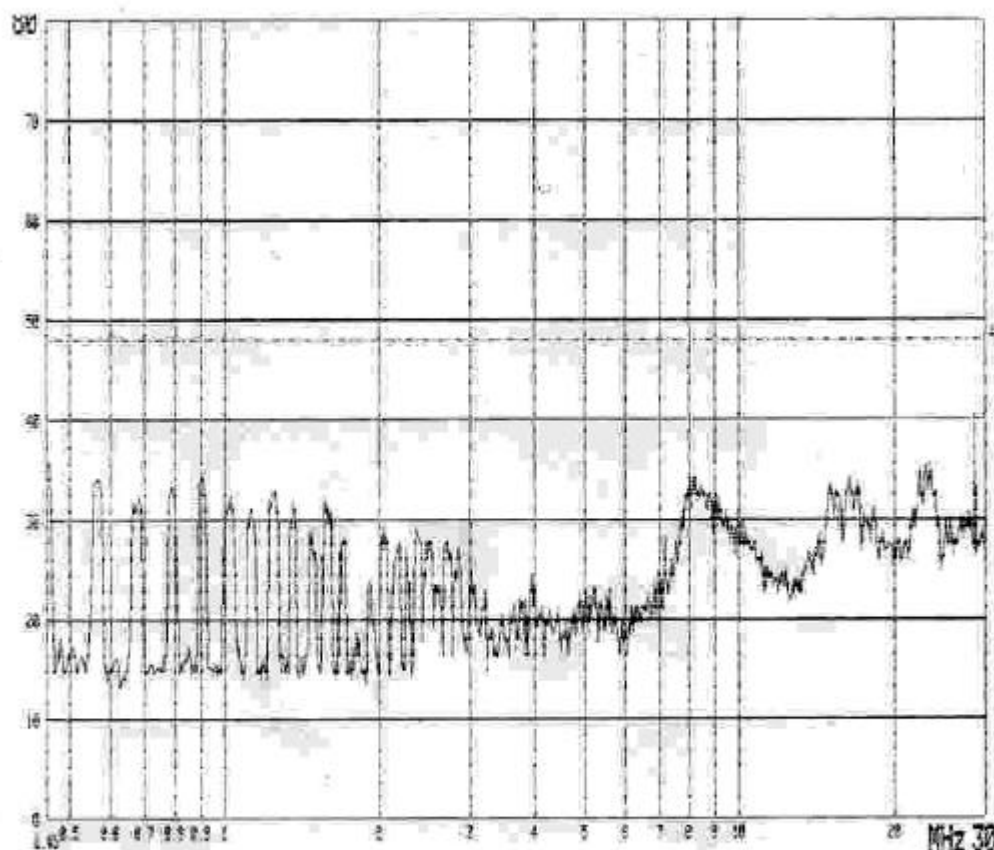
Tuner : SATMI-US4-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.456	31.20	48.00	16.80
0.581	29.20	48.00	18.80
8.087	33.50	48.00	14.50
23.001	30.20	48.00	17.80
28.637	38.00	48.00	10.00

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



MODEL : DV-T8G5N-PQ
120Vac 60Hz PHASE : NEUTRAL (CH4 RECORD MODE)

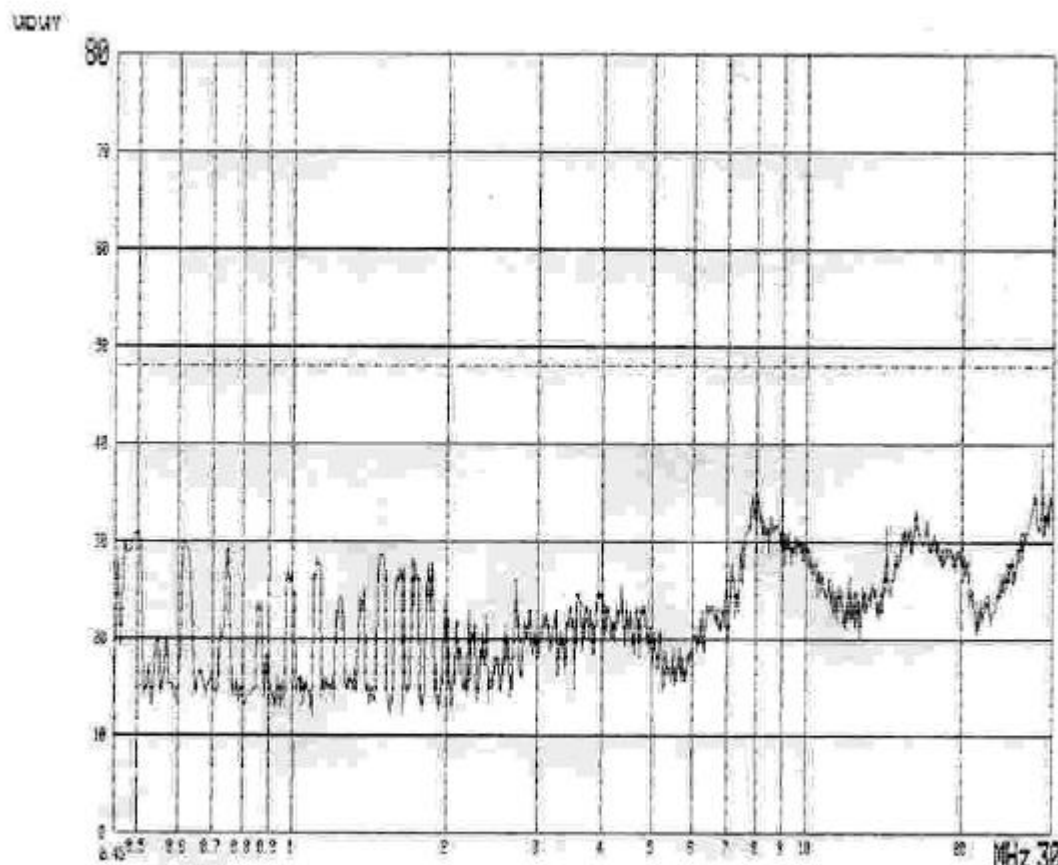
Tuner : SATMI-US4-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.460	33.80	48.00	14.20
0.578	32.30	48.00	15.70
0.922	32.00	48.00	16.00
8.167	32.80	48.00	15.20
28.637	38.40	48.00	9.60

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



MODEL: DV-T8G5N-PQ
120Vac 60Hz PHASE : LIVE (CH3 PLAY MODE)

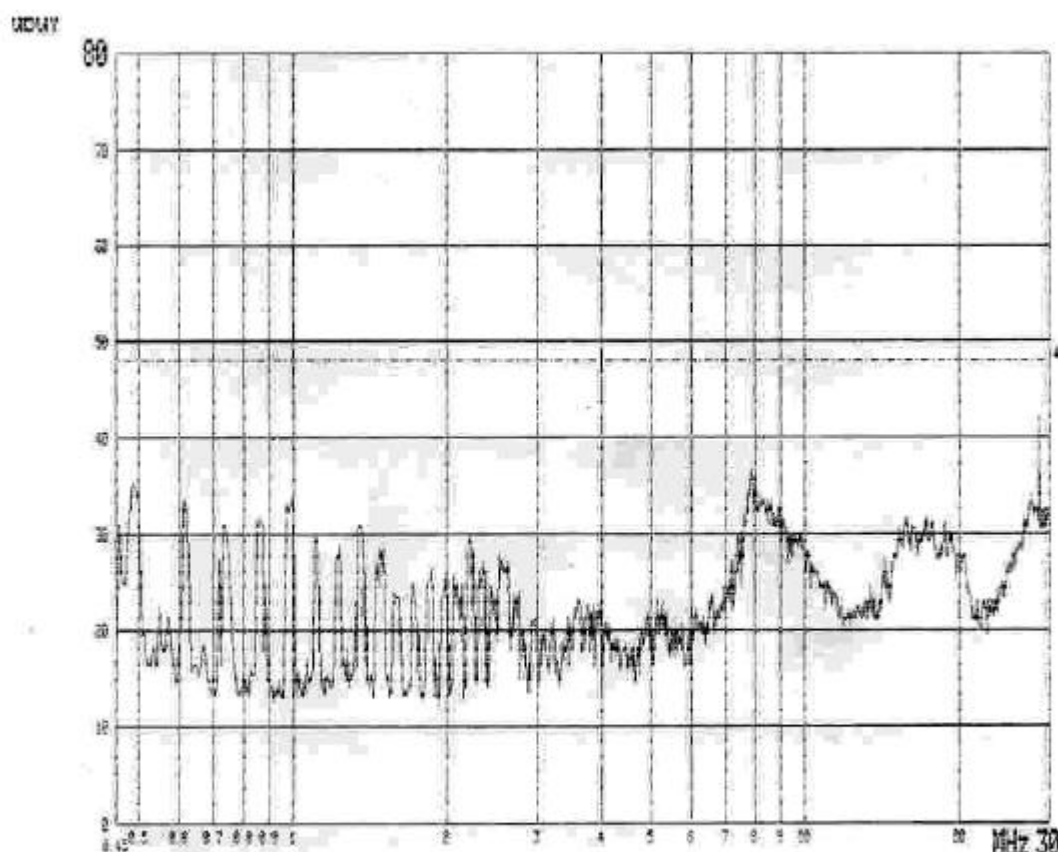
Tuner: ALTMI-US4-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.454	31.30	48.00	16.70
0.577	28.90	48.00	19.10
0.696	26.10	48.00	21.90
8.166	33.00	48.00	15.00
16.637	26.80	48.00	21.20
28.637	38.90	48.00	9.10

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



MODEL: DV-T8G5N-PQ
120Vac 50Hz PHASE : NEUTRAL (CH3 PLAY MODE)

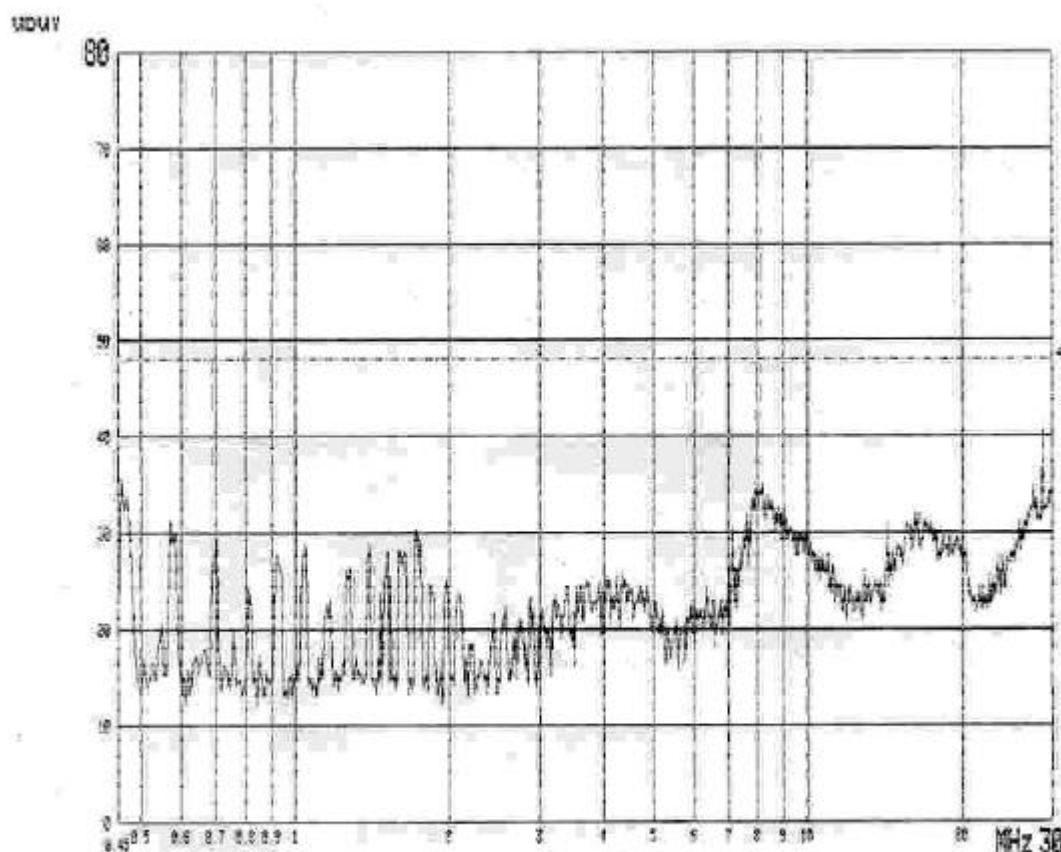
Tuner : ALTMI-US4-S

Frequency [MHz]	Measurement [dBμV]	Limit [dBμV]	Margin [dBμV]
	Q-Peak	Q-Peak	Q-Peak
0.472	35.10	48.00	12.90
0.575	32.10	48.00	15.90
0.929	32.30	48.00	15.70
8.087	34.00	48.00	14.00
16.215	26.10	48.00	21.90
28.637	37.90	48.00	10.10

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



MODEL: DV-T8G5N-PQ
120Vac 60Hz PHASE : LIVE (CH4 RECORD MODE)

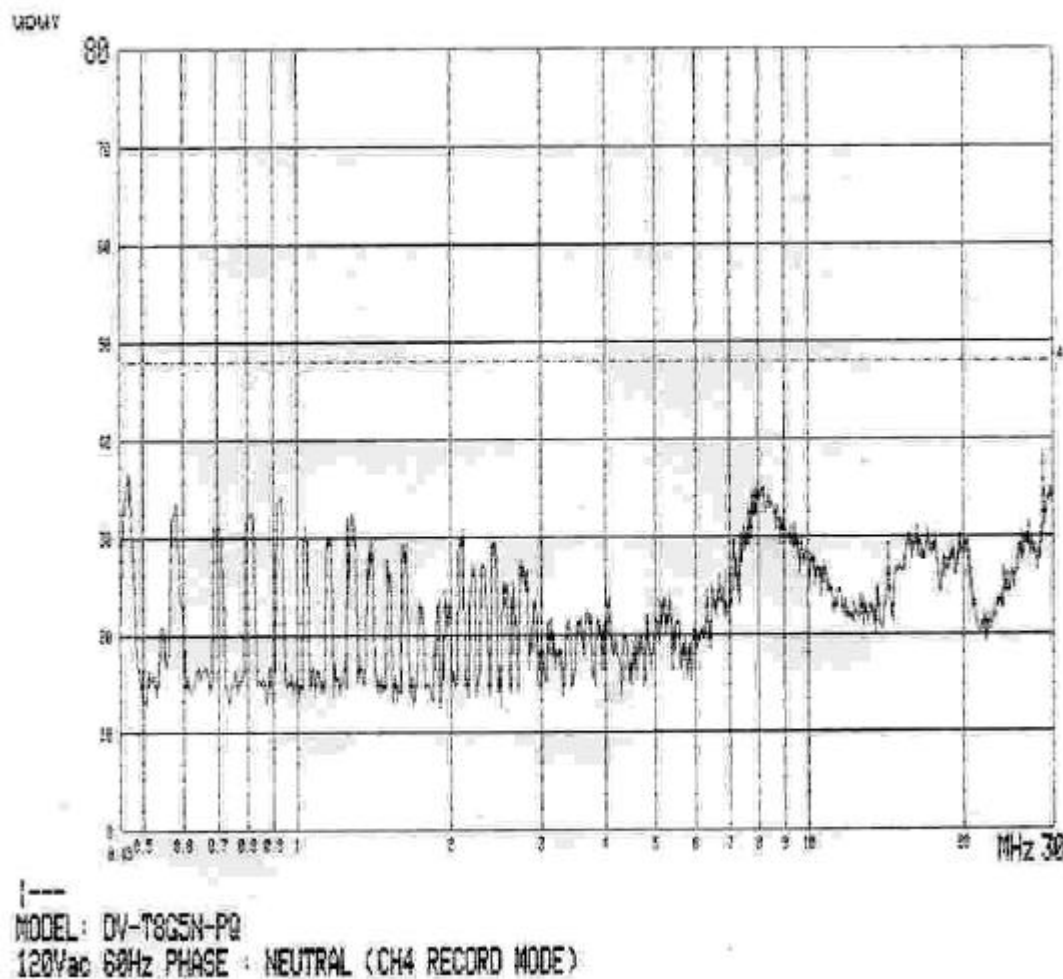
Tuner: ALTMI-US4-S

Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.494	29.50	48.00	18.50
0.619	29.00	48.00	19.00
0.745	27.60	48.00	20.40
8.014	33.50	48.00	14.50
16.252	28.60	48.00	19.40
28.637	40.00	48.00	8.00

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

Conducted Emissions

(Mains Terminal Disturbance Voltages)



Frequency [MHz]	Measurement [dBuV]	Limit [dBuV]	Margin [dBuV]
	Q-Peak	Q-Peak	Q-Peak
0.495	33.50	48.00	14.50
0.618	32.60	48.00	15.40
0.991	31.80	48.00	16.20
7.809	31.60	48.00	16.40
28.637	37.40	48.00	10.60

Note : The insertion loss, 0.8dB, is negligible compare with the margin evaluated.

TEST CONDITIONS AND DATA **Radiated Emission**

Test Equipment Used

<u>Model Name</u>	<u>Manufacturer</u>	<u>Description</u>	<u>Next Cal. Date</u>
ESVP	Rohde Schwarz	Receiver	Jun. 12, 2002
VULB9160	Schwarzbeck	Antenna	Jun. 04, 2002
EZM	Rohde Schwarz	Spectrum monitor	
8566B	Hewlett Packard	Spectrum Analyzer	Jul. 13, 2002
85685A	Hewlett Packard	RF preselector	Jul. 13, 2002

External Peripherals

<u>Device Description</u>	<u>Model Name</u>	<u>Manufacture</u>	<u>FCC Compliance Information</u>
TV Receiver	F19430	Daewoo	Verification

Test Program Playback

Test Area Open Field Test Site #2

Note : The final measurement in OATS was performed for worst case investigated.
Please refer to all of other results of preliminary test in appendix A.

Find the test data in following page(s) 38.

Radiated Emissions

(Disturbance Radiation)

- Tuner : **LGTMI-US2-S**

	Freq. [MHz]	Reading [dBuV]	Antenna Factor [dB]	Cable Loss [dB]	Angle [deg]	Polar. [H/V]	Result [dBuV]	Limit [dBuV]	Margin [dB]
	39.2	20.1	12.0	1.3	65	V	33.4	40.0	6.6
	54.6	21.3	11.4	1.6	346	V	34.3	40.0	5.7
	67.5	20.5	10.0	1.9	247	V	32.4	40.0	7.6
	113.5	23.2	10.5	2.5	322	V	36.2	43.5	7.3
	128.1	19.8	11.9	2.7	296	H	34.4	43.5	9.1
	144.2	18.6	12.4	2.8	228	H	33.8	43.5	9.7
	156.3	15.3	12.9	2.9	18	V	31.1	43.5	12.4
	185.4	18.6	10.3	3.3	310	V	32.2	43.5	11.4
	254.9	24.9	11.0	3.9	357	H	39.8	46.0	6.2
	343.1	21.4	13.4	4.7	219	H	39.5	46.0	6.6
	456.4	14.7	16.1	5.7	69	H	36.5	46.0	9.6

End of data

TEST CONDITIONS AND DATA **Output Signal Level Measurements**

Test Equipment Used

<u>Model Name</u>	<u>Manufacturer</u>	<u>Description</u>	<u>Next Cal. Date</u>
8566B	Hewlett Packard	Spectrum Analyzer	Jul. 13, 2002
85685A	Hewlett Packard	RF preselector	Jul. 13, 2002
RAM	Rohde & Schwarz	Matching Pad	Sep. 21, 2002

External Peripherals

<u>Device Description</u>	<u>Model Name</u>	<u>Manufacture</u>	<u>FCC Compliance Information</u>
TV Receiver	F19430	Daewoo	Verification

Test Program Playback and record

Test Area Compact Chamber

Note : Limit Calculations

For Video Signal

$$346.4 \times 75^{1/2} = 2999\mu V = 69.54dBuV = -37.46 \text{ dBm}$$

For Audio Signal

$$77.5 \times 75^{1/2} = 671.17\mu V = 56.53dBuV = -50.46 \text{ dBm}$$

Find the test data in following page(s) 40 to 74.

Output Signal Level Measurements

TV CH.	Freq.(MHz)	Level(dBuV)	Limit(dBuV)	Mode	Margin(dB)
3(Pix)	61.29	59.40	69.54	Play	-10.14
3(Aud)	65.81	45.00	56.53	Play	-11.53
3(Pix)	61.28	59.30	69.54	Record	-10.24
3(Aud)	65.81	45.10	56.53	Record	-11.43
4(Pix)	67.27	59.40	69.54	Play	-10.14
4(Aud)	71.79	44.50	56.53	Play	-12.03
4(Pix)	67.27	59.30	69.54	Record	-10.24
4(Aud)	71.81	44.50	56.53	Record	-12.03

Output Signal Tabulated Data with Tuner
 (LG Innotek Co., Ltd. Model: **LGTMI-US2-S**)

Output Signal Level Measurements

TV CH.	Freq.(MHz)	Level(dBuV)	Limit(dBuV)	Mode	Margin(dB)
3(Pix)	61.29	58.30	69.54	Play	-11.24
3(Aud)	65.82	43.10	56.53	Play	-13.43
3(Pix)	61.29	58.40	69.54	Record	-11.14
3(Aud)	65.82	43.20	56.53	Record	-13.33
4(Pix)	67.28	58.10	69.54	Play	-11.44
4(Aud)	71.79	42.00	56.53	Play	-14.53
4(Pix)	67.27	58.10	69.54	Record	-11.34
4(Aud)	71.78	42.10	56.53	Record	-14.43

Output Signal Tabulated Data with Tuner
 (Korea Alps Model: **ALTM1-US3-S**)

Output Signal Level Measurements

TV CH.	Freq.(MHz)	Level(dBuV)	Limit(dBuV)	Mode	Margin(dB)
3(Pix)	61.29	60.70	69.54	Play	-8.84
3(Aud)	65.81	46.80	56.53	Play	-9.73
3(Pix)	61.30	60.70	69.54	Record	-8.84
3(Aud)	65.82	46.80	56.53	Record	-9.73
4(Pix)	67.28	60.80	69.54	Play	-8.74
4(Aud)	71.78	46.20	56.53	Play	-10.33
4(Pix)	67.27	60.80	69.54	Record	-8.74
4(Aud)	71.79	46.20	56.53	Record	-10.33

Output Signal Tabulated Data with Tuner
 (Partsnic Model: **DWTMI-US3-S**)

Output Signal Level Measurements

TV CH.	Freq.(MHz)	Level(dBuV)	Limit(dBuV)	Mode	Margin(dB)
3(Pix)	61.26	59.30	69.54	Play	-10.24
3(Aud)	65.77	45.30	56.53	Play	-11.23
3(Pix)	61.17	59.20	69.54	Record	-10.34
3(Aud)	65.82	45.40	56.53	Record	-11.13
4(Pix)	67.14	59.50	69.54	Play	-10.04
4(Aud)	71.76	44.80	56.53	Play	-11.73
4(Pix)	67.27	59.60	69.54	Record	-9.94
4(Aud)	71.72	44.90	56.53	Record	-11.63

Output Signal Tabulated Data with Tuner
 (LG Innotek Co., Ltd. Model: **LGTMI-US4-S**)

Output Signal Level Measurements

TV CH.	Freq.(MHz)	Level(dBuV)	Limit(dBuV)	Mode	Margin(dB)
3(Pix)	61.29	59.60	69.54	Play	-9.94
3(Aud)	65.81	42.80	56.53	Play	-13.73
3(Pix)	61.27	58.90	69.54	Record	-10.64
3(Aud)	65.81	42.80	56.53	Record	-13.73
4(Pix)	67.26	59.50	69.54	Play	-10.4
4(Aud)	71.80	41.70	56.53	Play	-14.83
4(Pix)	67.27	59.60	69.54	Record	-9.94
4(Aud)	71.81	41.80	56.53	Record	-14.73

Output Signal Tabulated Data with Tuner
 (Samsung Electric Co., Ltd. Model: **SSTMI-US3-S**)

Output Signal Level Measurements

TV CH.	Freq.(MHz)	Level(dBuV)	Limit(dBuV)	Mode	Margin(dB)
3(Pix)	61.28	59.80	69.54	Play	-9.74
3(Aud)	65.81	44.40	56.53	Play	-12.13
3(Pix)	61.28	58.70	69.54	Record	-10.84
3(Aud)	65.80	44.40	56.53	Record	-12.13
4(Pix)	67.27	60.20	69.54	Play	-9.34
4(Aud)	71.80	43.60	56.53	Play	-12.93
4(Pix)	67.27	60.20	69.54	Record	-9.34
4(Aud)	71.87	43.80	56.53	Record	-12.73

Output Signal Tabulated Data with Tuner
 (Sanyo Electronic Co., Ltd. Model: **SATMI-US4-S**)

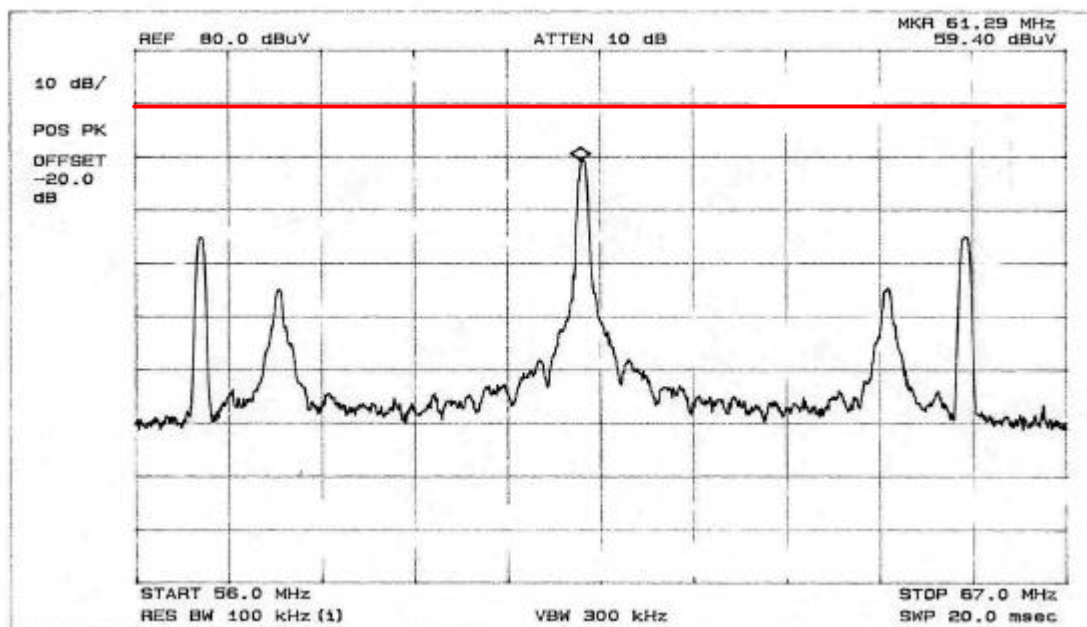
Output Signal Level Measurements

TV CH.	Freq.(MHz)	Level(dBuV)	Limit(dBuV)	Mode	Margin(dB)
3(Pix)	61.29	58.90	69.54	Play	-10.64
3(Aud)	65.80	43.70	56.53	Play	-12.83
3(Pix)	61.28	58.90	69.54	Record	-10.64
3(Aud)	65.83	43.80	56.53	Record	-12.73
4(Pix)	67.27	58.70	69.54	Play	-10.84
4(Aud)	71.78	42.90	56.53	Play	-13.63
4(Pix)	67.26	58.60	69.54	Record	-10.94
4(Aud)	71.80	42.90	56.53	Record	-13.63

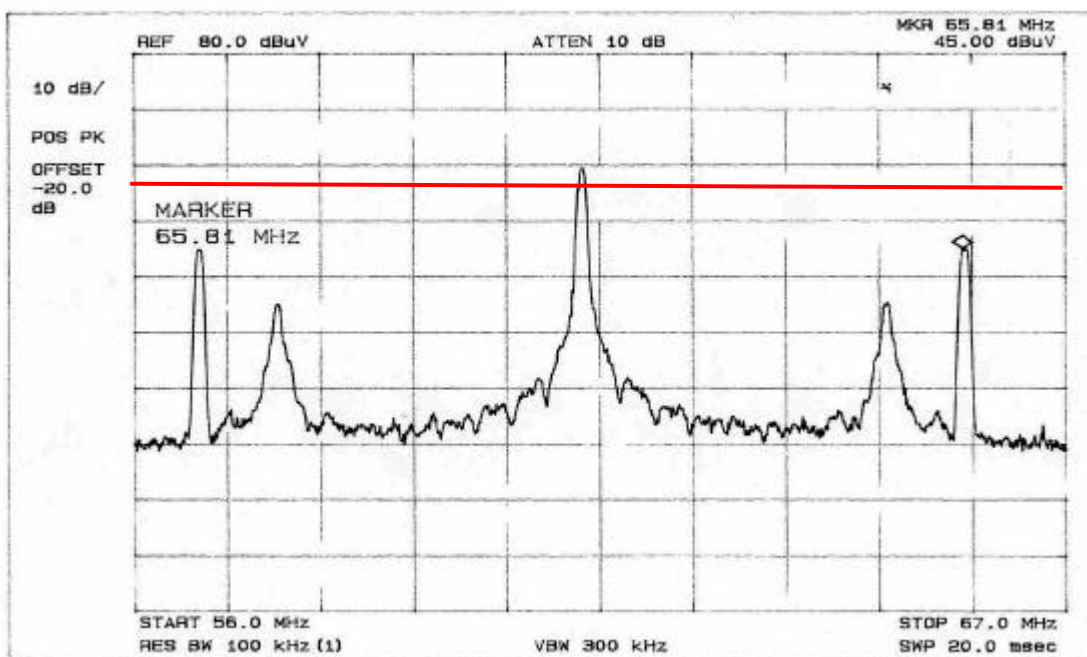
Output Signal Tabulated Data with Tuner
 (Korea Alps Model: **ALTM1-US4-S**)

Output Signal Level Measurements

Tuner : LGTMI-US2-S



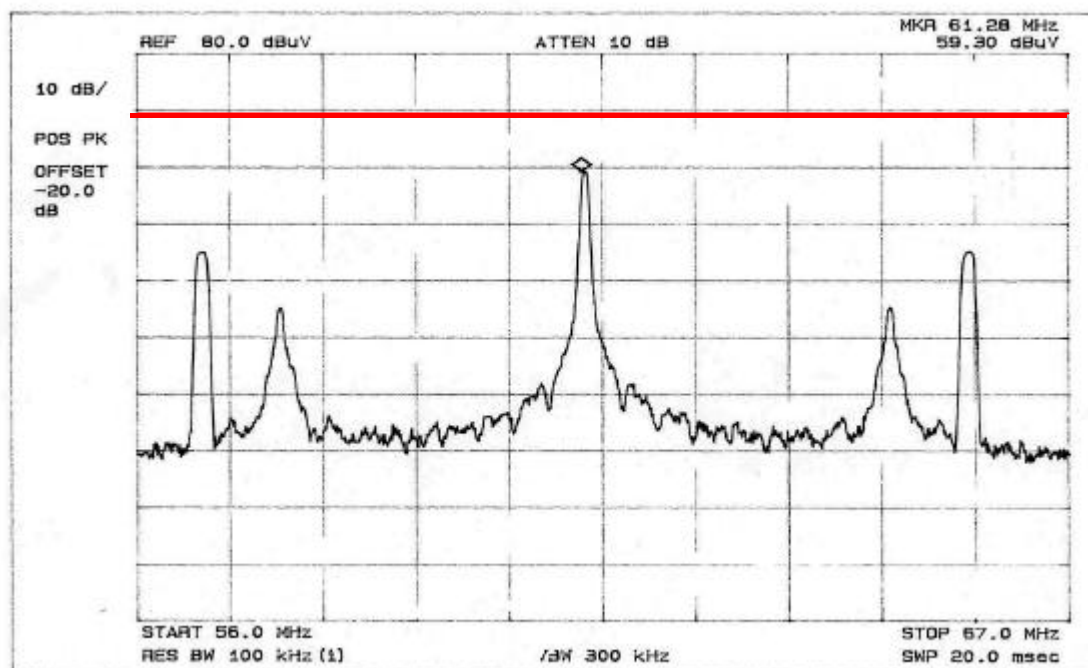
CH3 Play (Pix)



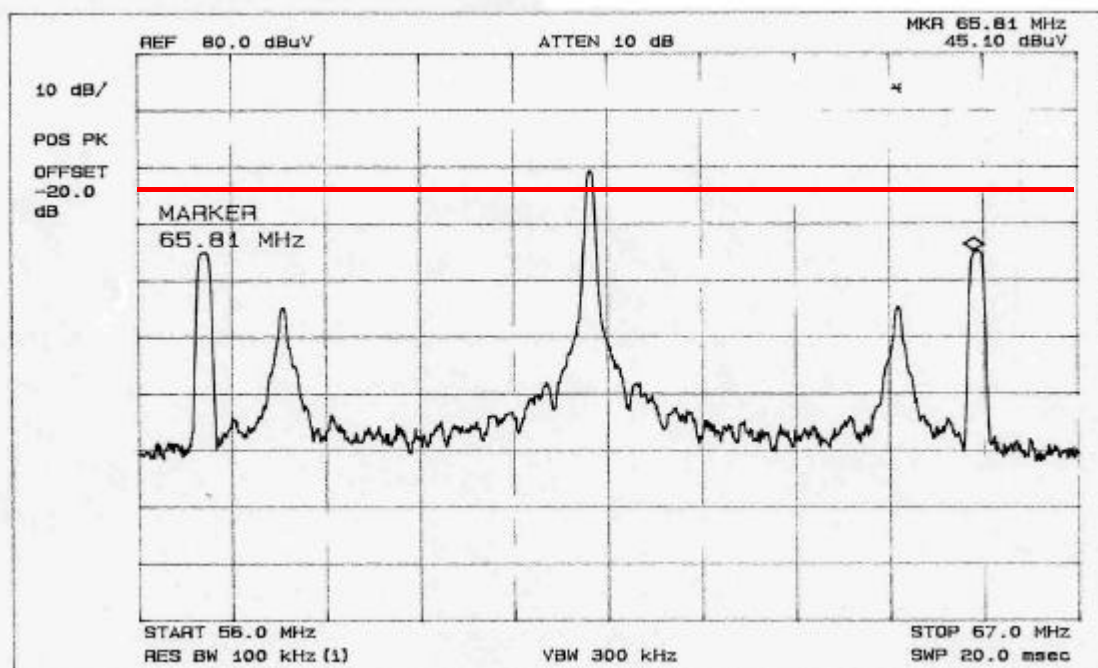
CH3 Play (Aud)

Output Signal Level Measurements

Tuner: LGTMI-US2-S



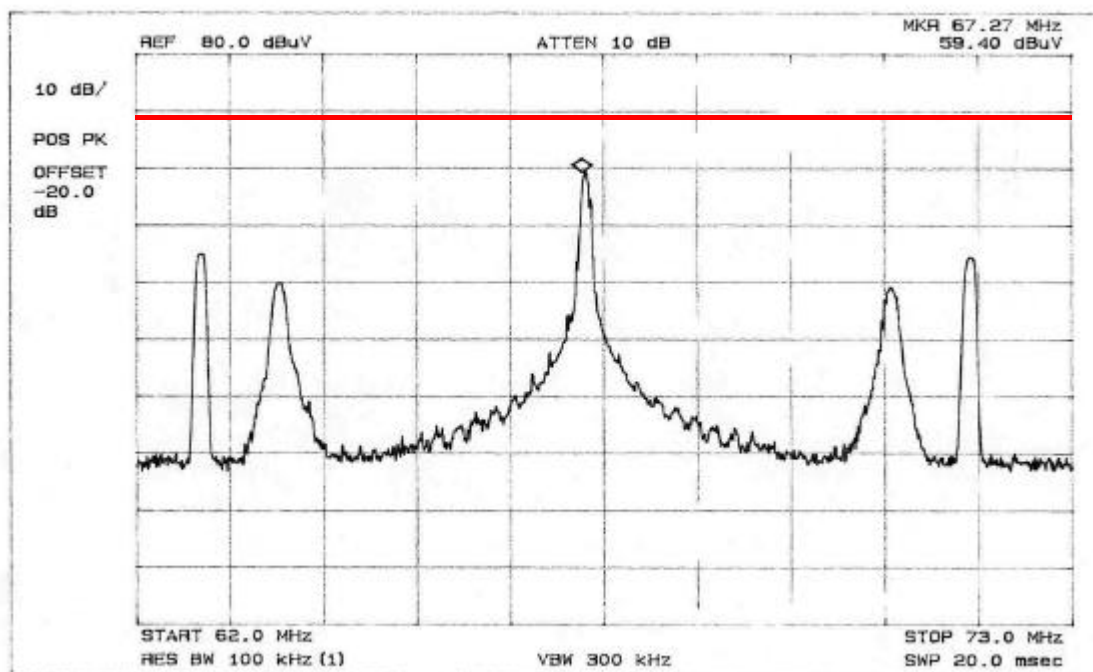
CH3 Record (Pix)



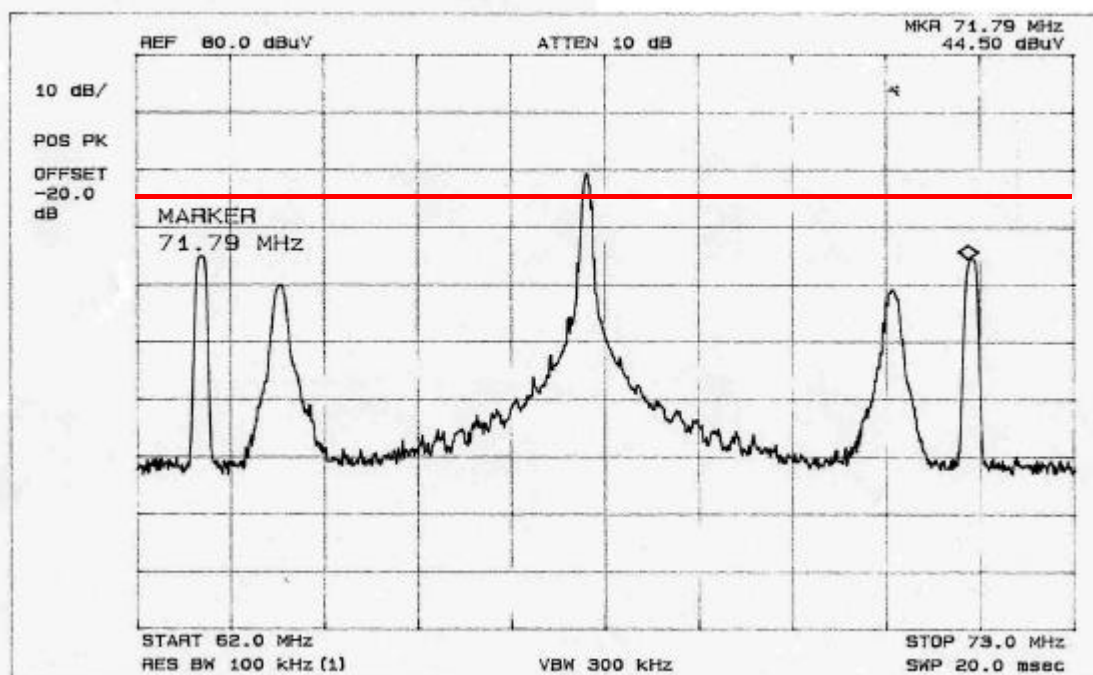
CH3 Record (Aud)

Output Signal Level Measurements

Tuner: LGTMI-US2-S



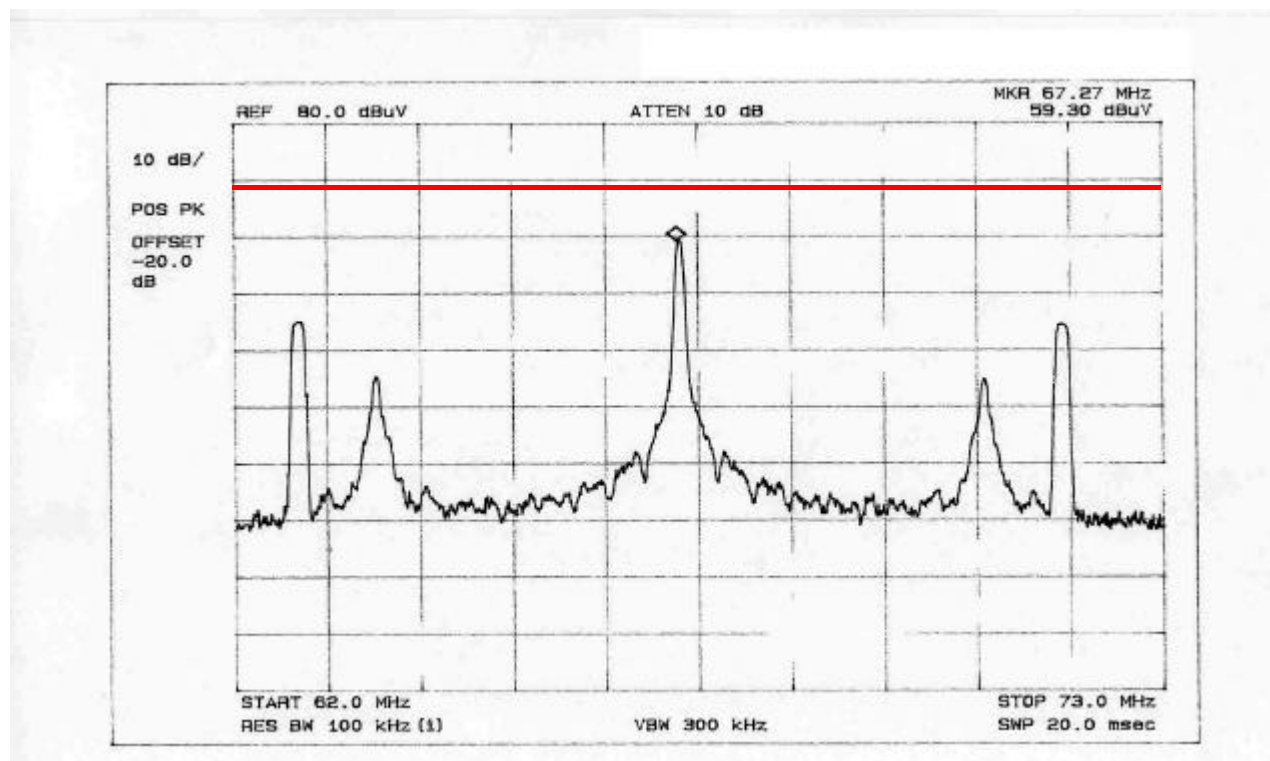
CH4 Play (Pix)



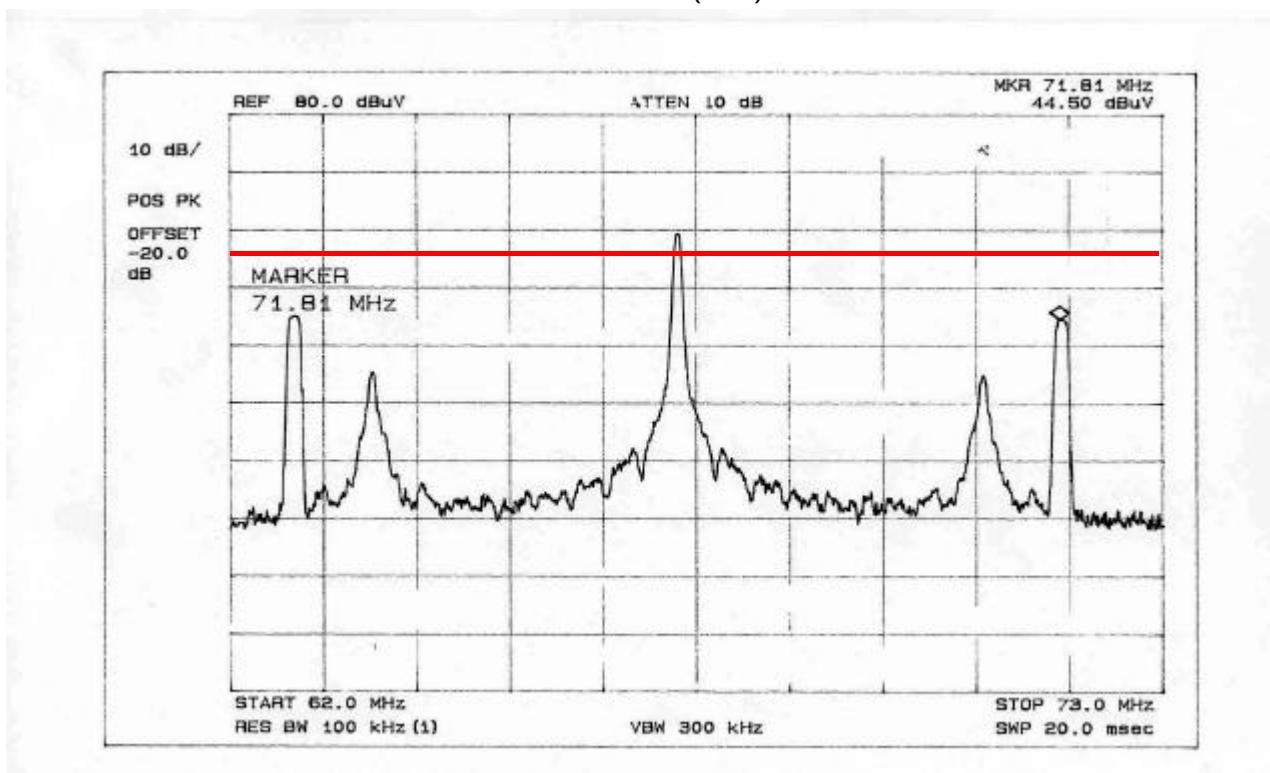
CH4 Play (Aud)

Output Signal Level Measurements

Tuner: LGTMI-US2-S



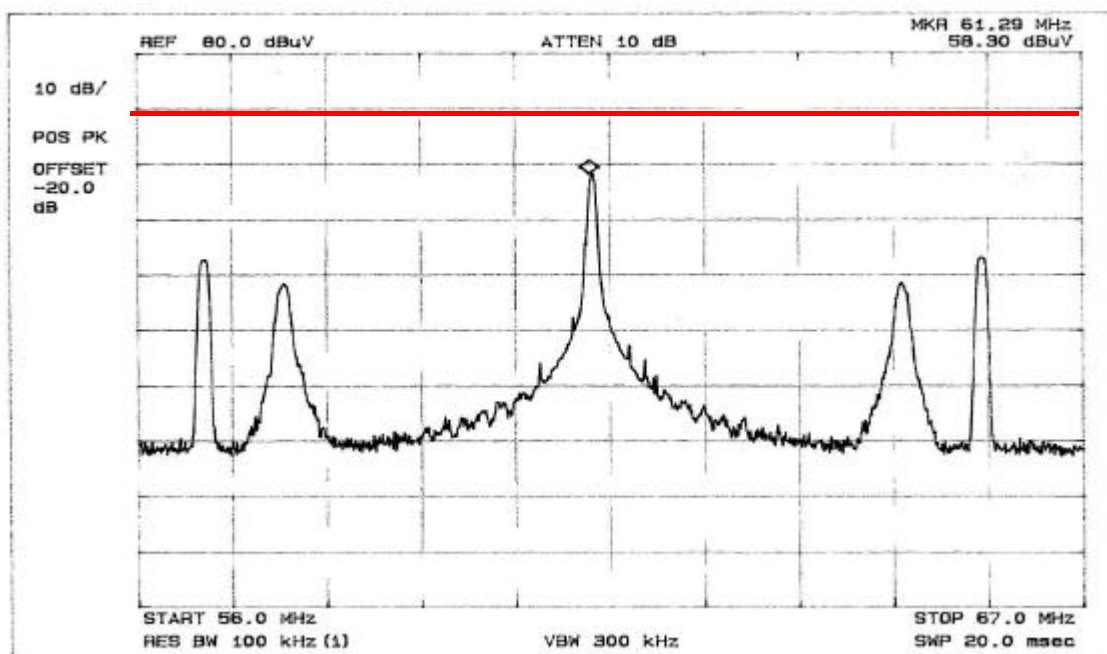
CH4 Record (Pix)



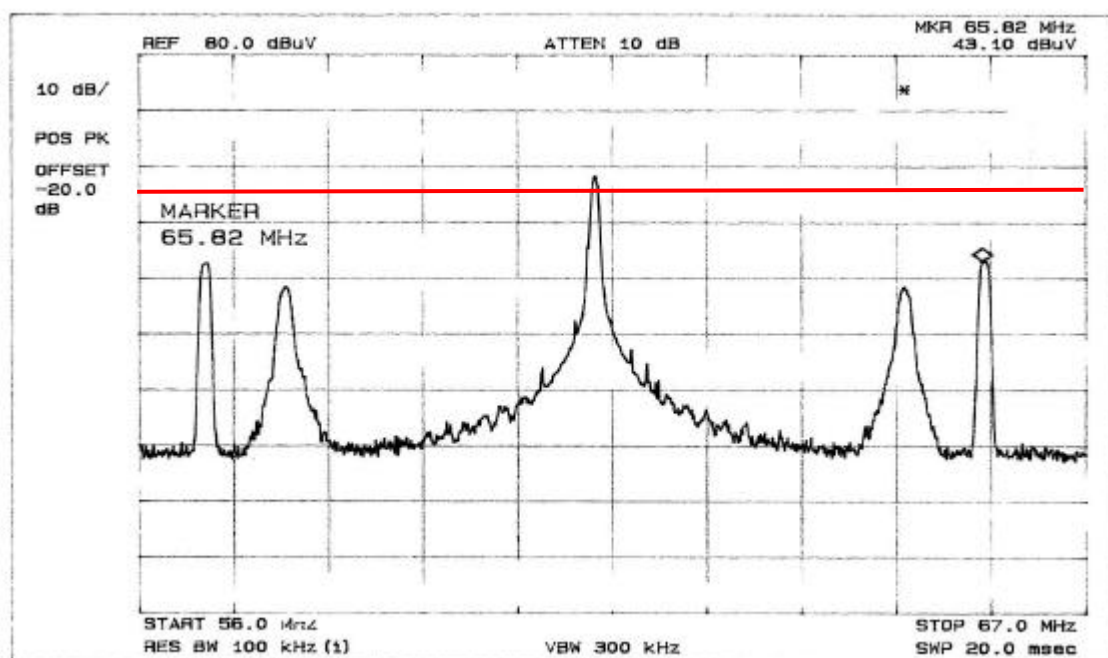
CH4 Record (Aud))

Output Signal Level Measurements

Tuner: ALTMI-US3-S



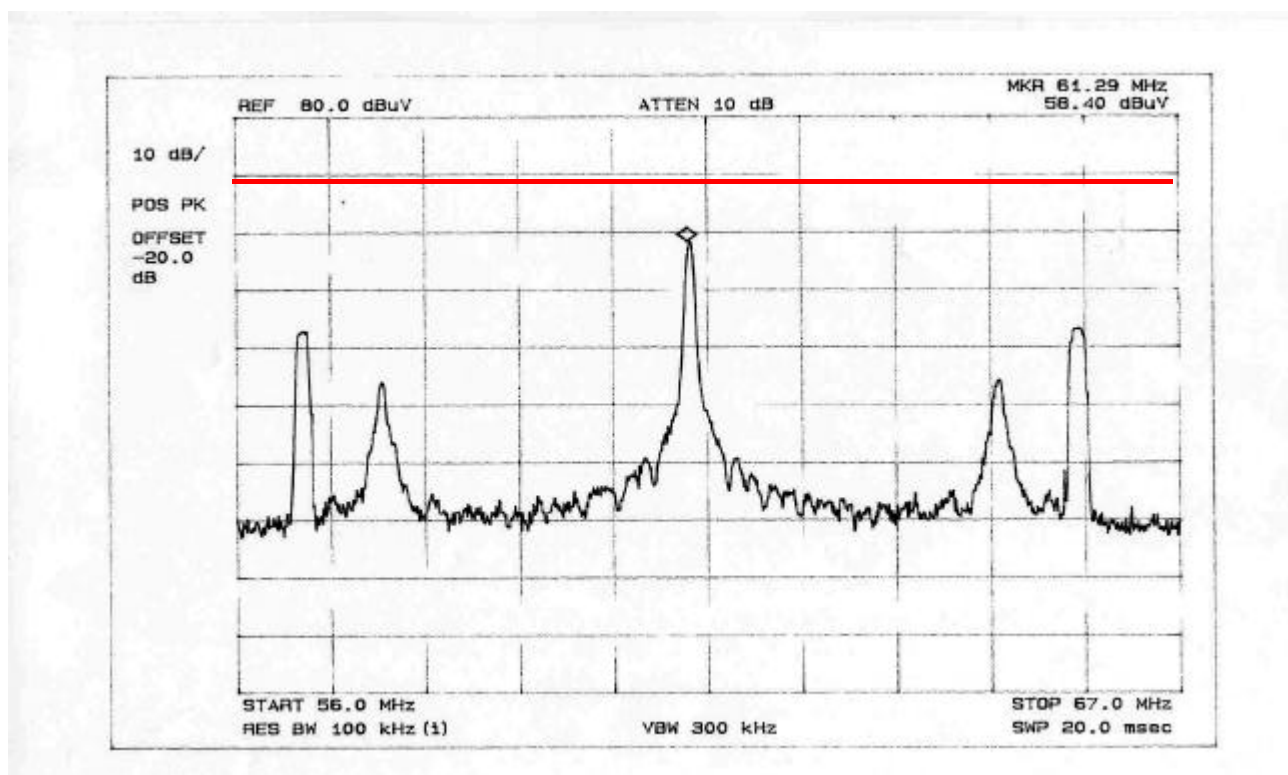
CH3 Play (Pix)



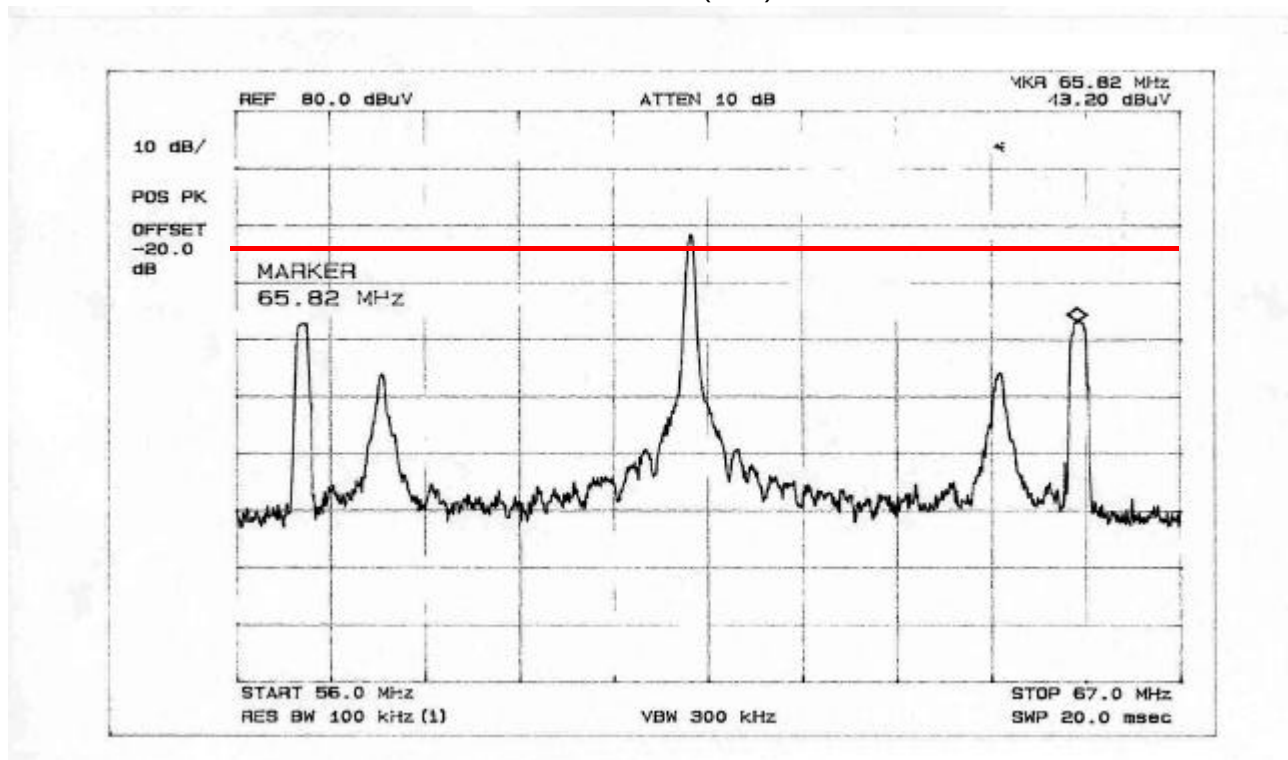
CH3 Play (Aud)

Output Signal Level Measurements

Tuner: ALTMI-US3-S



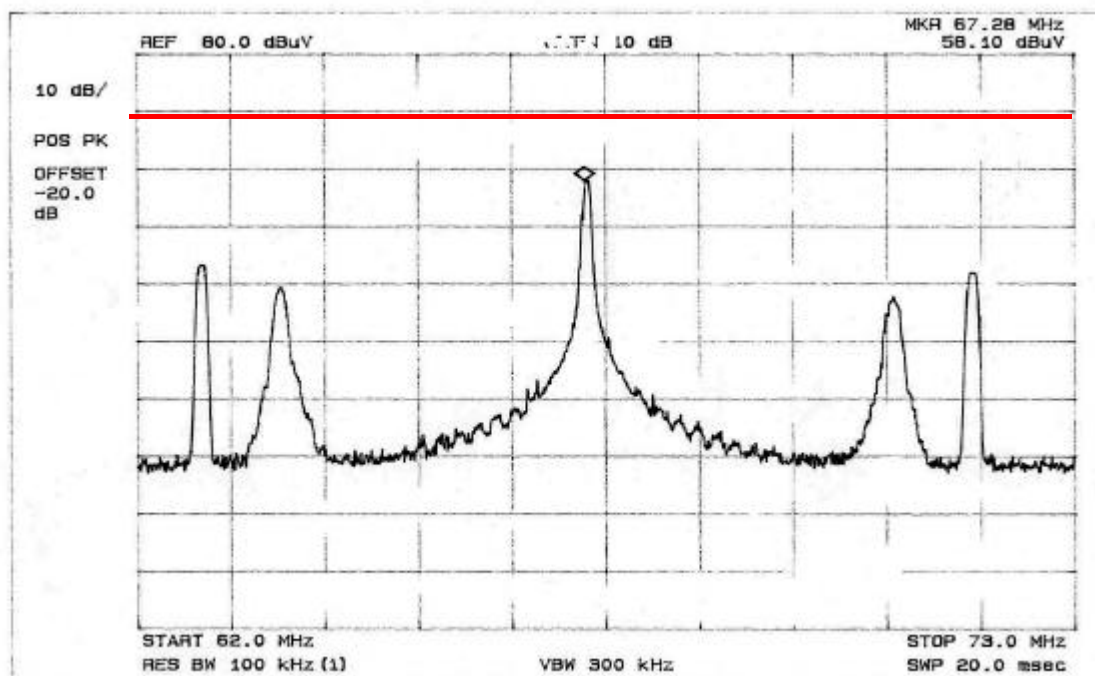
CH3 Record (Pix)



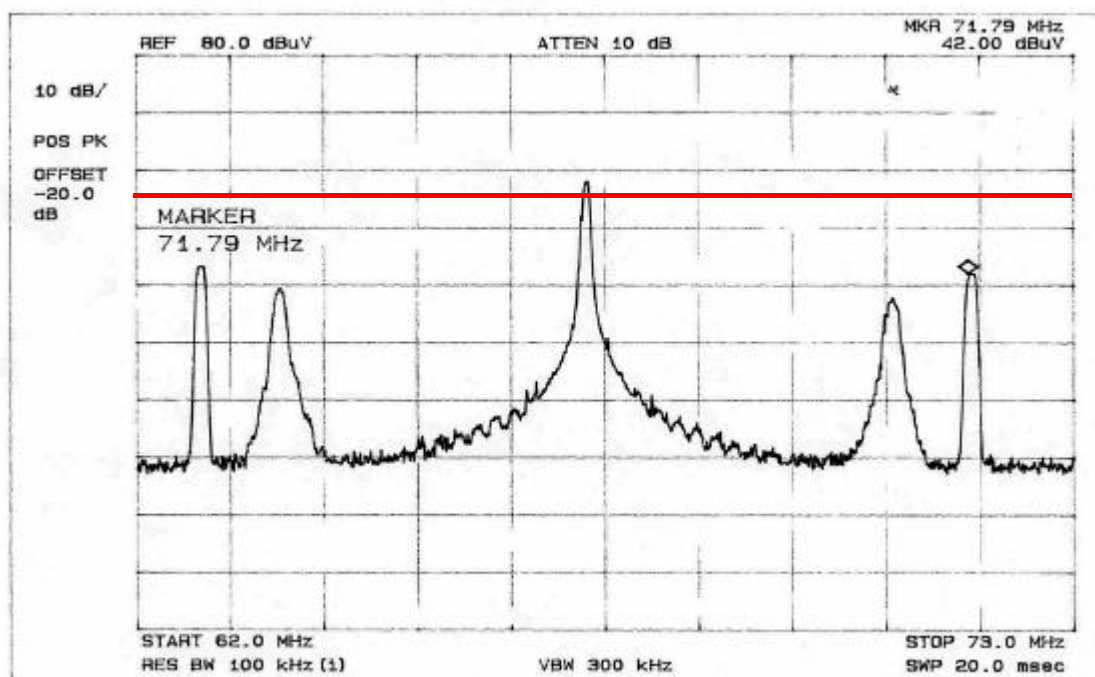
CH3 Record (Aud)

Output Signal Level Measurements

Tuner: ALTMI-US3-S



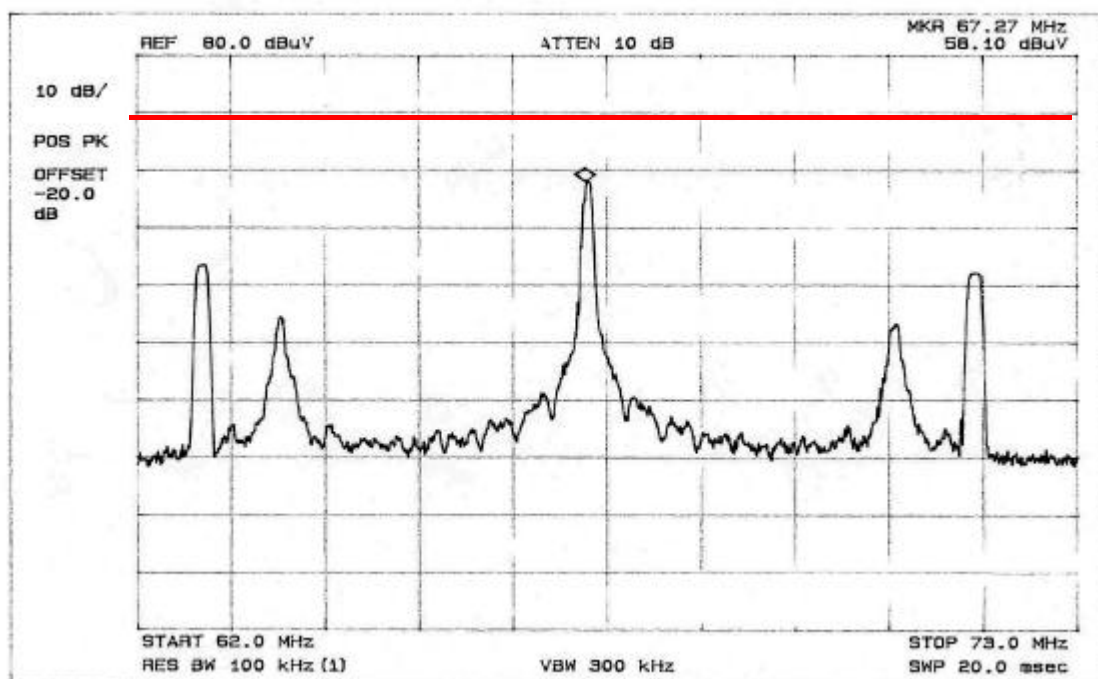
CH4 Play (Pix)



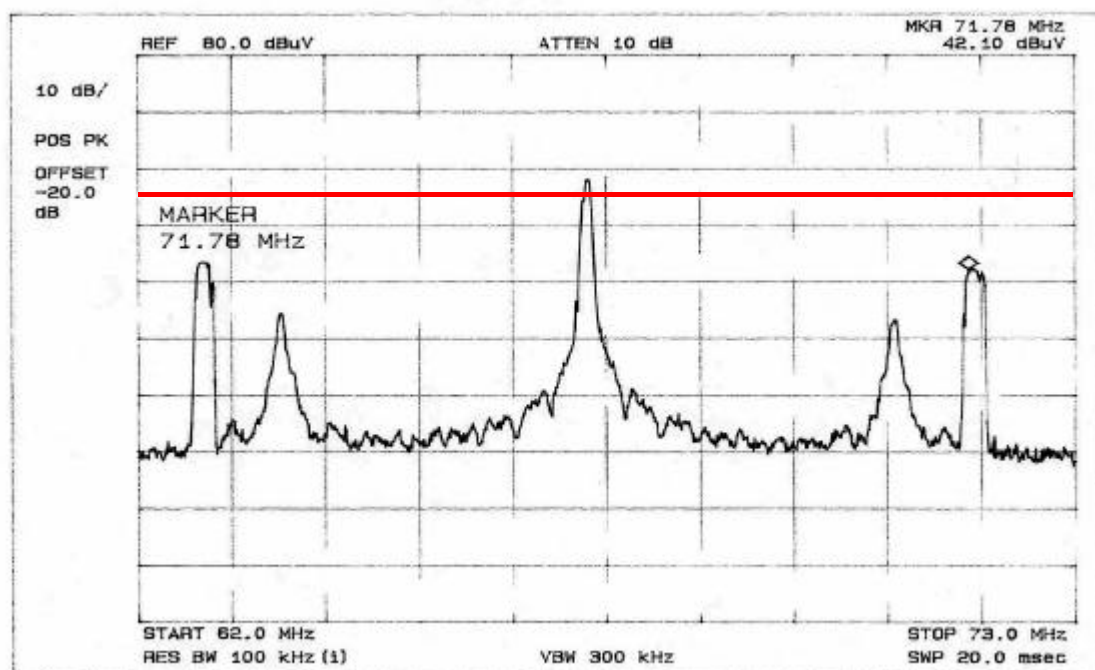
CH4 Play (Aud)

Output Signal Level Measurements

Tuner: ALTMI-US3-S



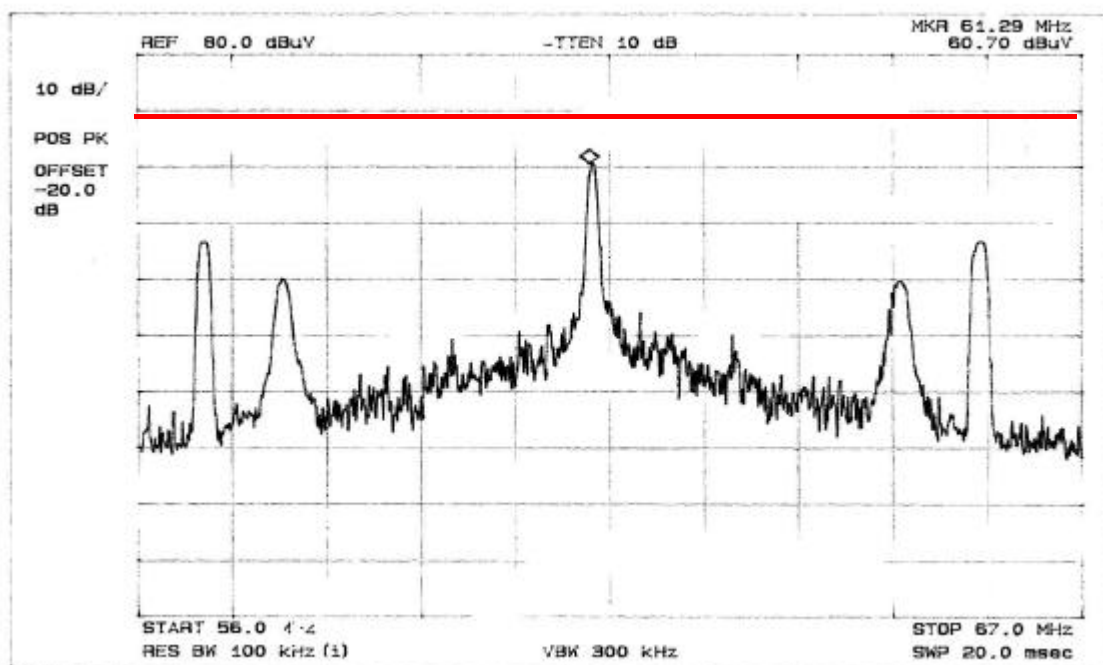
CH4 Record (Pix)



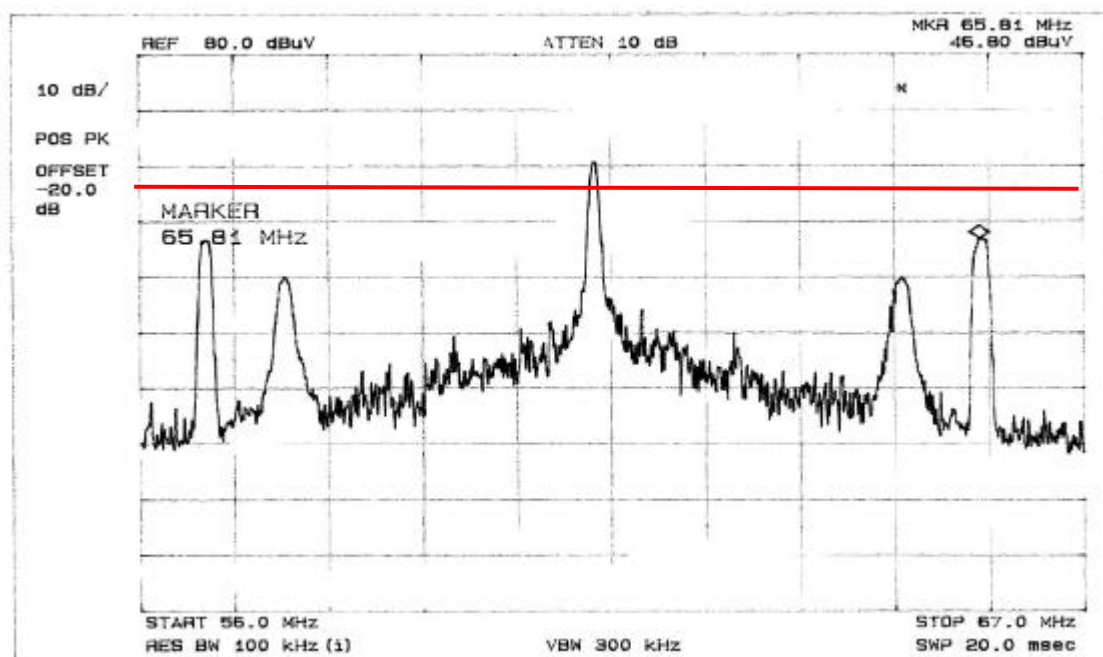
CH4 Record (Aud)

Output Signal Level Measurements

Tuner: DWTMI-US3-S



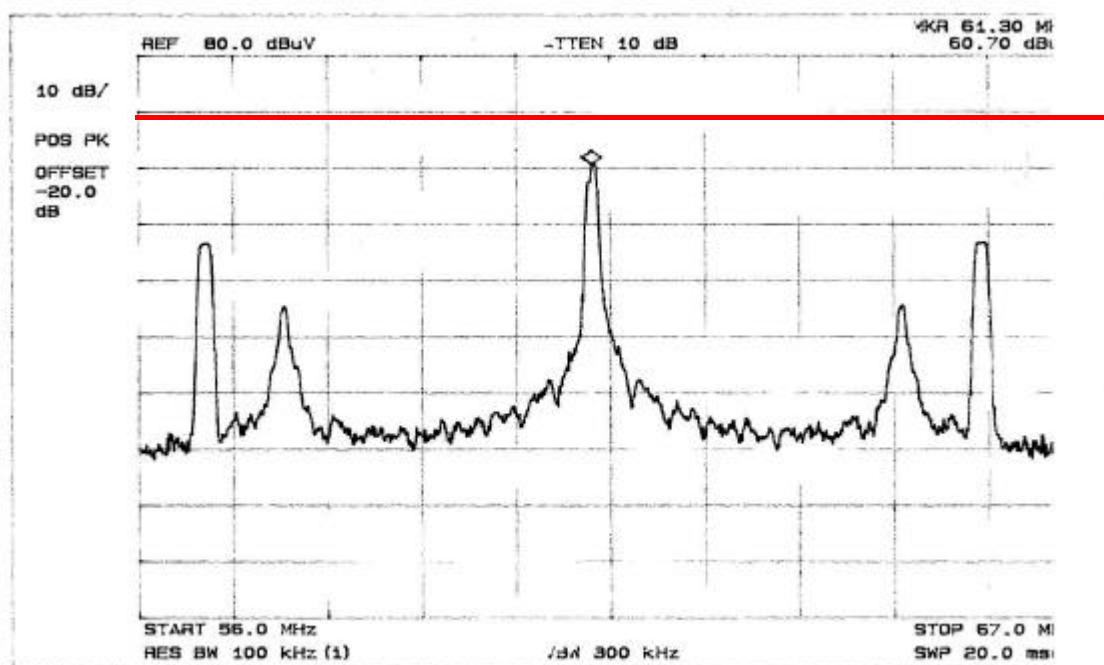
CH3 Play (Pix)



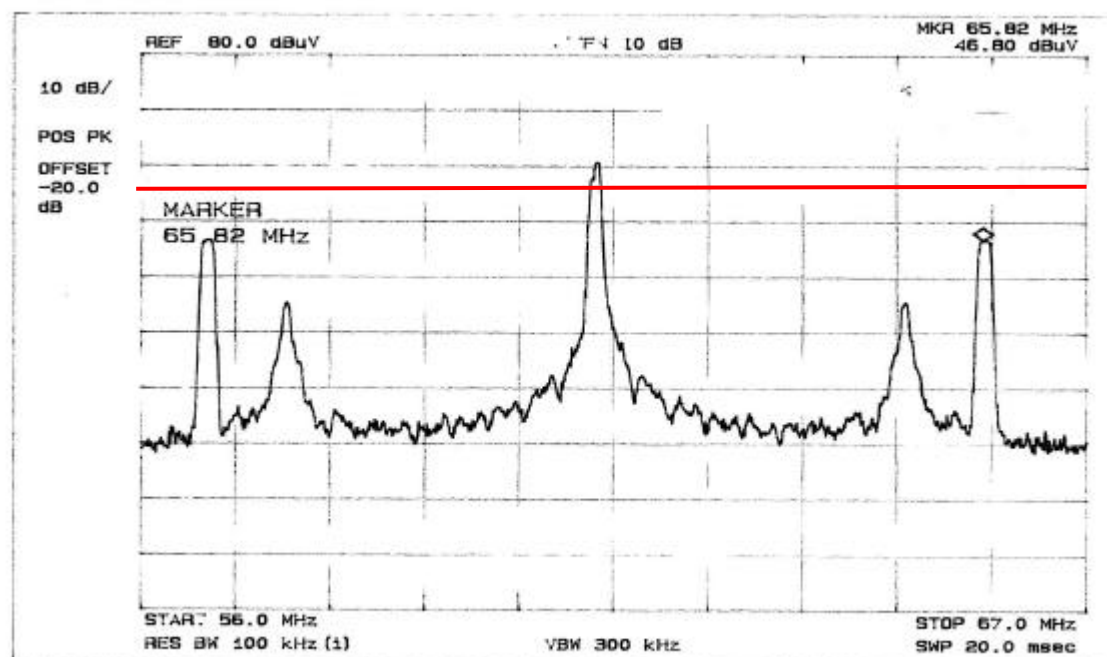
CH3 Play (Aud)

Output Signal Level Measurements

Tuner: DWTMI-US3-S



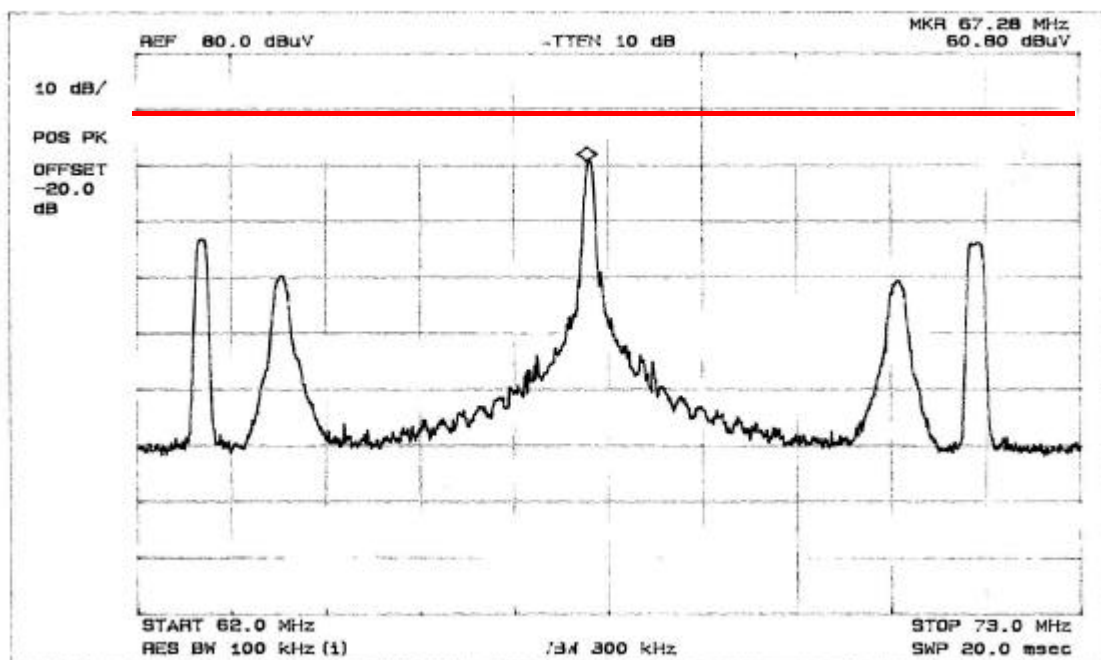
CH3 Record (Pix)



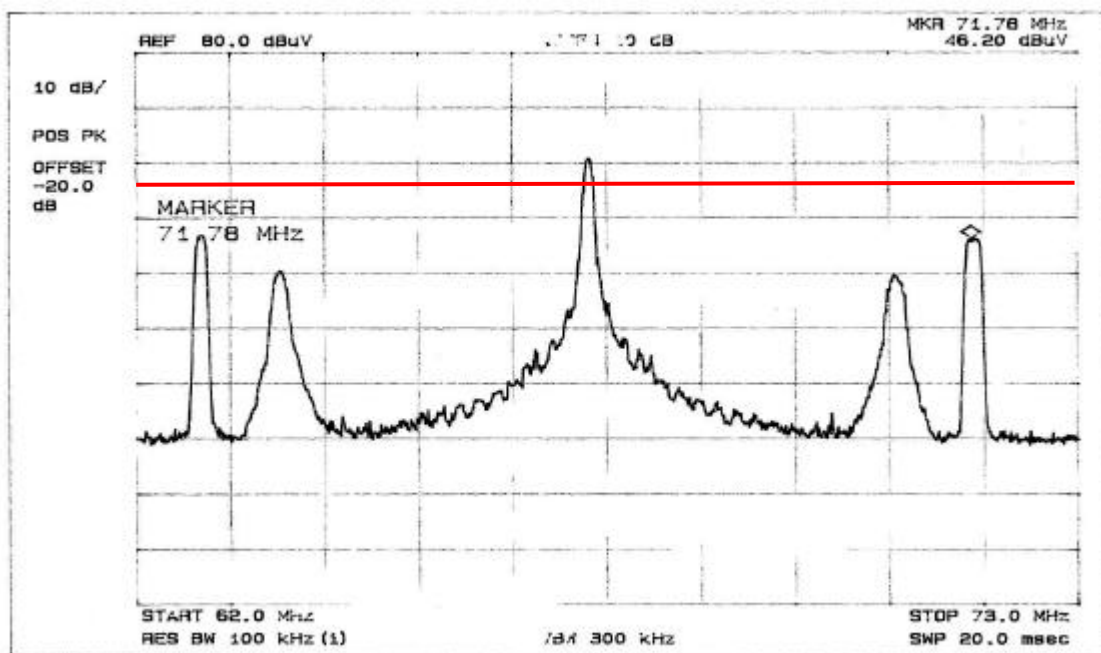
CH3 Record (Aud)

Output Signal Level Measurements

Tuner: DWTMI-US3-S



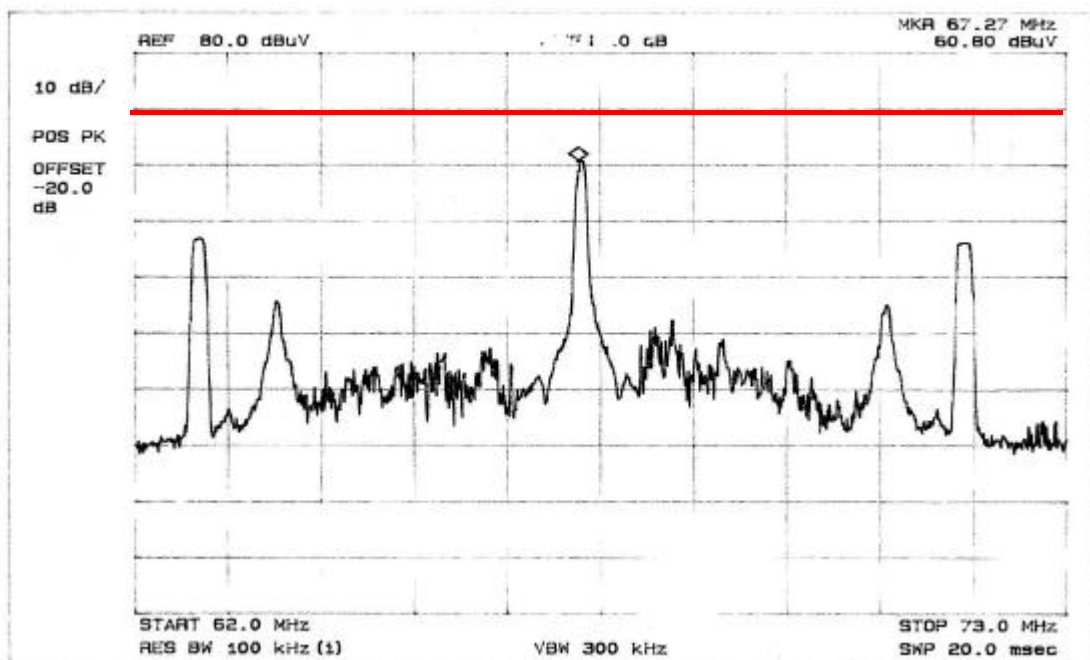
CH4 Play (Pix)



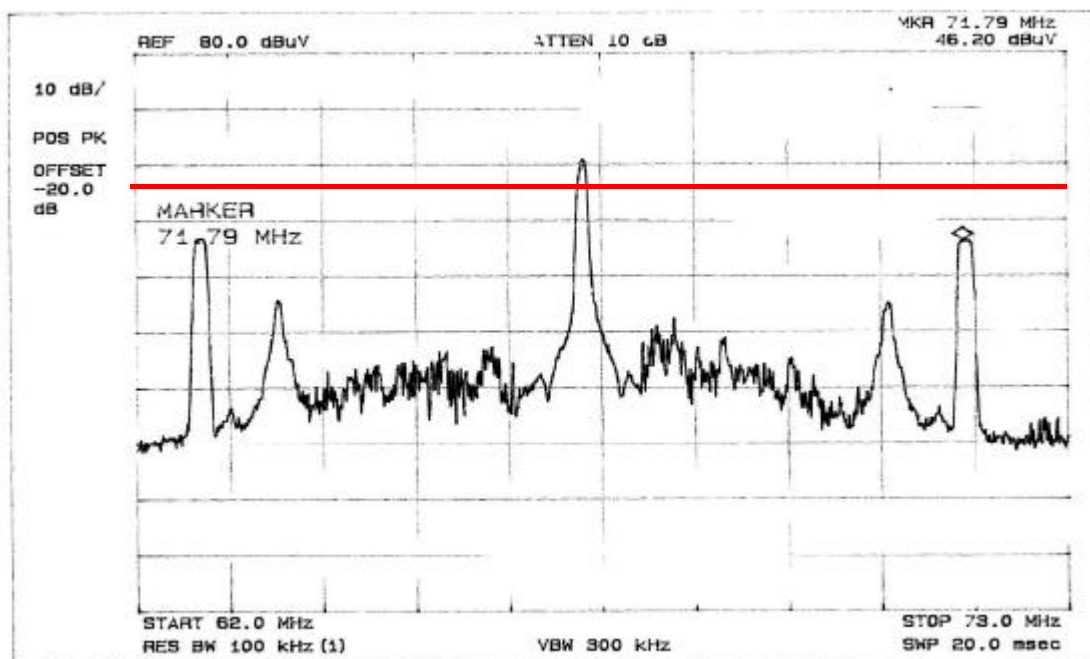
CH4 Play (Aud)

Output Signal Level Measurements

Tuner: DWTMI-US3-S



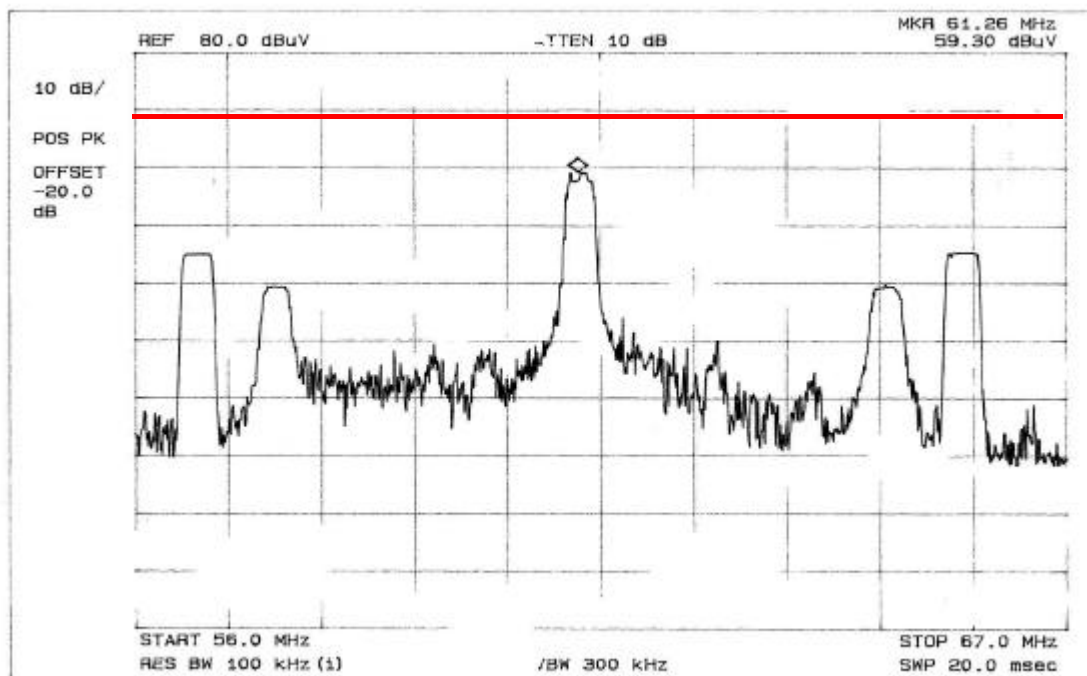
CH4 Record (Pix)



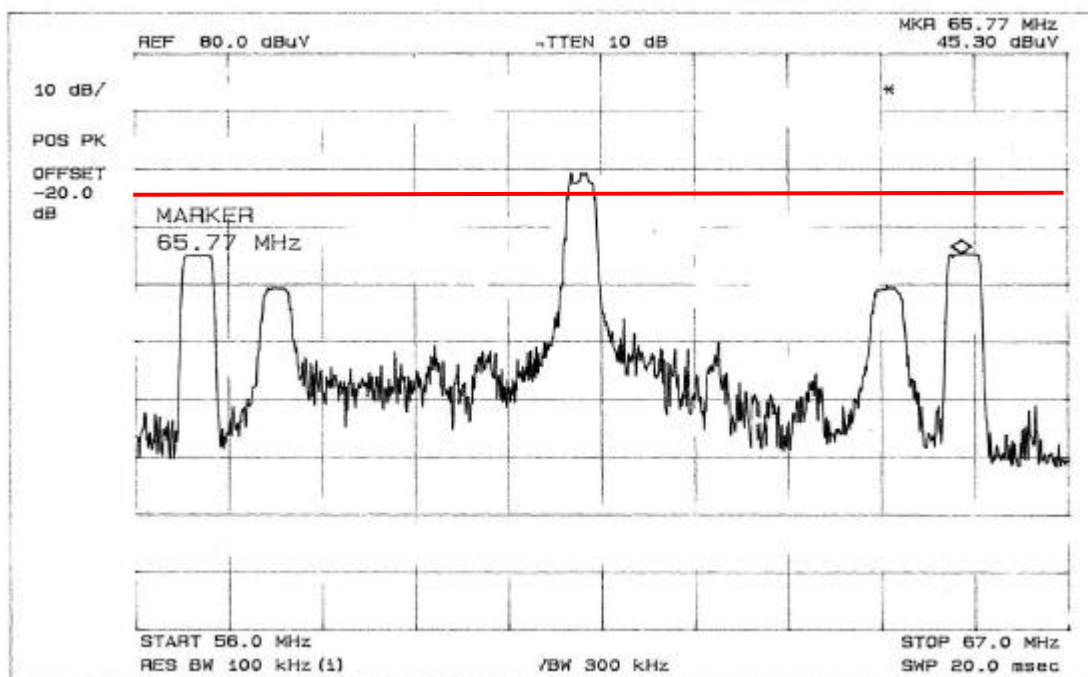
CH4 Record (Aud)

Output Signal Level Measurements

Tuner: LGTMI-US4-S



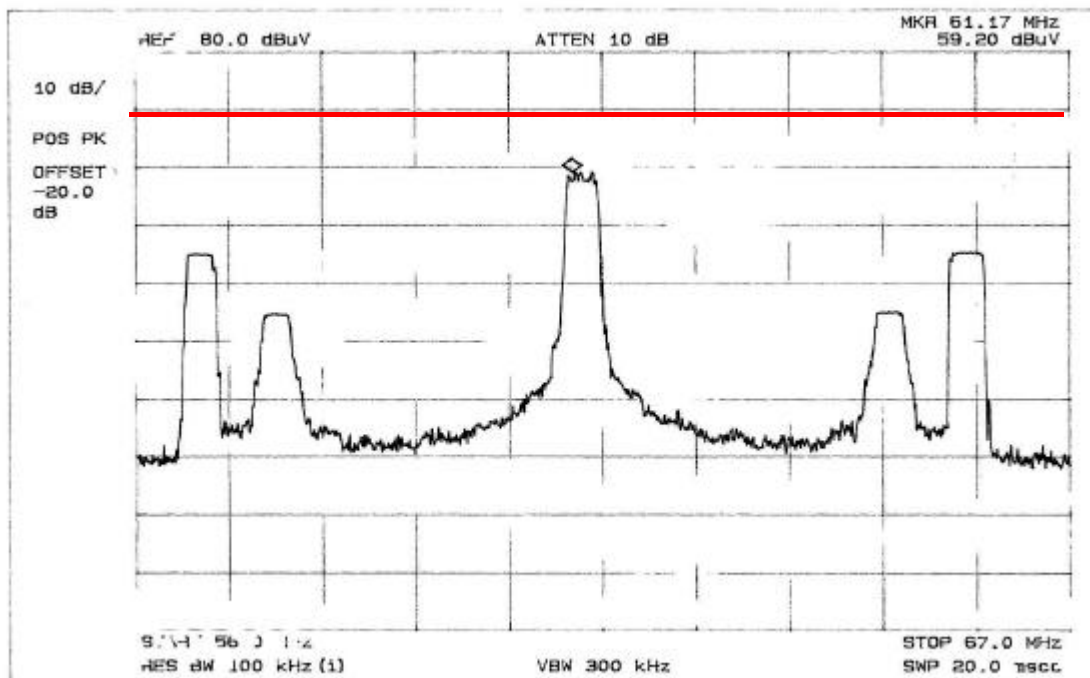
CH3 Play (Pix)



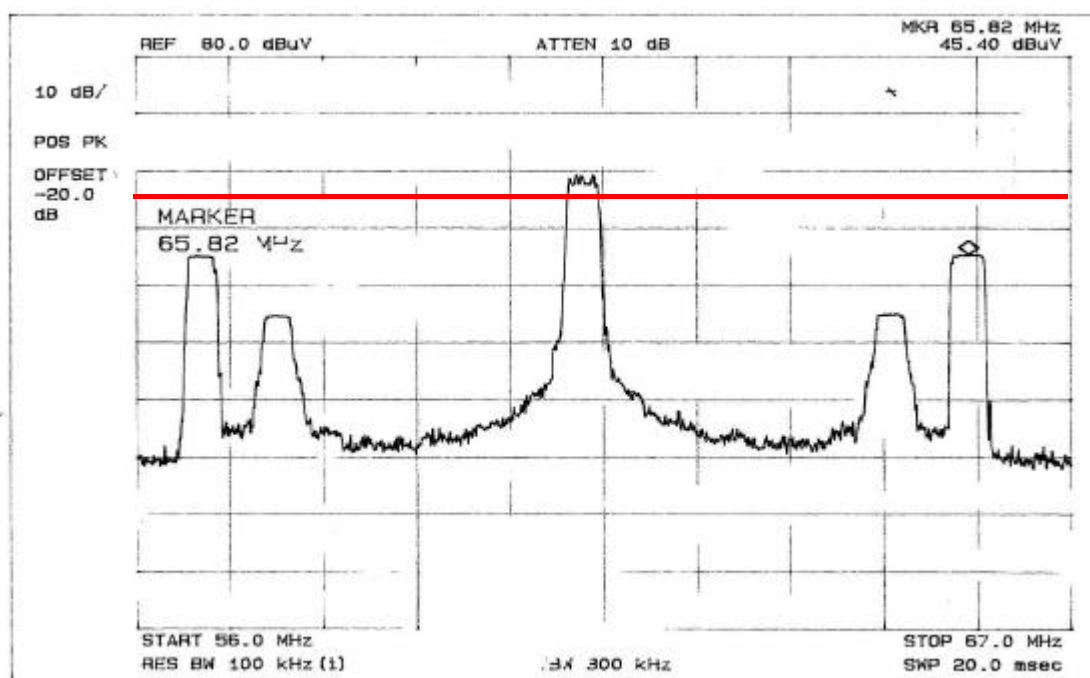
CH3 Play (Aud)

Output Signal Level Measurements

Tuner: LGTMI-US4-S



CH3 Record (Pix)



CH3 Record (Aud)