PLANAR MONOLITHICS INDUSTRIES
7311G-2 GROVE ROAD, FREDERICK, MD 21704
TEL: 301-662-4700, FAX: 301-662-4938

TEST DATA

ON

0.1 TO 2.5 GHz

DC- COUPLED

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER (SDLVA)

PMI MODEL Nos: SDLVAC-0120-70M AND

SLVAC-06135M

SERIAL NUMBERS: 2012 & 0165

DESIGNED
BY
A.K. GORWARA

TESTED
BY
B. BAKER

DECEMBER 11, 1992

REVISED FEB 22, 2007 (REV 1)

CHARACTERIZATION
OF
SDLVA-0120-70
SLVA-06135
(Serial No.'s: 2012,0165)

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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE	07/18/95	
	B	ECN# 04-001	1/8/04	

DESCRIPTION

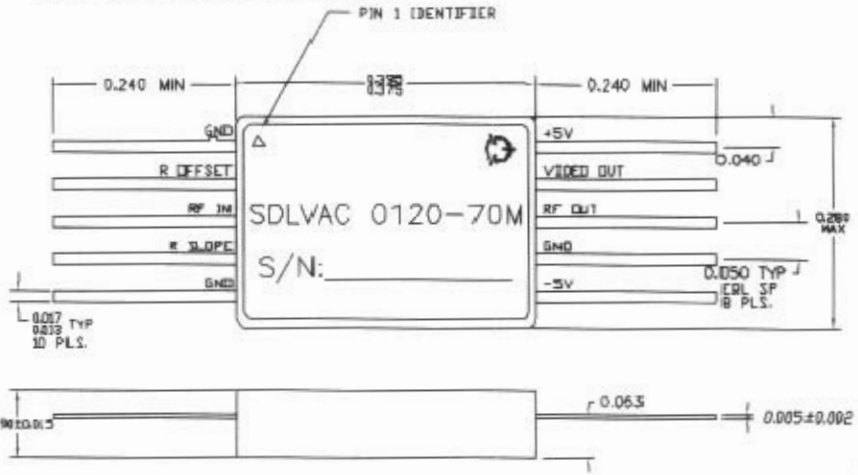
THE MODEL SDLVAC-0120-70M MINIATURE SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER (SDLVA) OPERATES OVER THE 0.1 TO 2.0 GHz RANGE (USEFUL RANGE UP TO 2.5 GHz) AND SLVAC-06135M IS OPTIMIZED OVER THE 600 MHz TO 1.35 GHz FREQUENCY RANGE. THESE UNITS HAVE A DYNAMIC RANGE OF 65 TO 70 dB, A TSS OF −67 dBm AND A NOMINAL VIDEO BANDWIDTH OF 20 MHz. FURTHERMORE, THESE UNITS ARE DESIGNED USING CUTTING EDGE GaAs TECHNOLOGY WHICH PROVIDES STUNNING PERFORMANCE AND RELIABILITY IN A COMPACT PACKAGE MAKING IT AN OPTIMUM SOLUTION FOR HIGH SPEED CHANNELIZED RECEIVER APPLICATIONS. THESE UNITS OFFER TYPICAL FAST RISE TIME ≤ 20ns, RAPID FALL TIME ≤ 25ns AS WELL AS SUPERIOR DELAY TIME OF 8 nsec.

THE LOG SLOPE IS 25mV/dB AND THE ACCURACY IS LESS THAN ±1.0 dB OVER THE −60 TO 0 dBm POWER INPUT RANGE. DYNAMIC RANGE CAN BE EXTENDED TO −65/+5 WITH LOG ERROR OF ±1.5 dB. OPTIONS ARE AVAILABLE WITH ADJUSTABLE LOGGING SLOPE AND DC OFFSETS.

GUARANTEED RISE TIMES ARE LESS THAN 25 ns AND MAXIMUM RECOVERY TIMES ARE LESS THAN 30 ns. RECOVERY TIMES AT LOWER POWER ARE FASTER.

THE SDLVAC-0120-70M SDLVA IS COMMERCIALLY SCREENED AND CHARACTERIZED FROM −55° TO +85°C. SIZES AVAILABLE ARE 0.395" x 0.280" x 0.090" OR TO ANY OTHER CUSTOMIZED CONFIGURATION DESIRED.

MECHANICAL OUTLINE



NOTES:
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES: X.XX ±0.020
X.XXX ±0.010
3) WEIGHT: 0.2 OZ

SPECIFICATIONS

- FREQUENCY RANGE:
  - PMI MODEL NO: SDLVAC: 0120-70M - 0.1 TO 2.0 GHz (USEFUL RANGE TO 2.5 GHz)
  - PMI MODEL NO: SLVAC: 06135M - 0.6 TO 1.35 GHz
- DYNAMIC RANGE - > 65 dB
- LOG LINEARITY - ±1.2 dB MAX. (−60 dBm TO 0 dBm), ±0.8 dB TYPICAL
  ±1.5 dB MAX. (−65 dBm TO +5 dBm), ±1.2 dB TYPICAL
- MINIMUM LOGGING RANGE - −60 dBm (−65 dBm TYPICAL)
- MAXIMUM LOGGING RANGE - +5 dBm (+8 dBm TYPICAL)
- VSWR INPUT - 1.8:1 MAXIMUM (1.5:1 TYPICAL)
- TANGENTIAL SENSITIVITY - −65 dBm MINIMUM (−70 dBm TYPICAL)
- LIMITED IF OUTPUT - −16 dBm (TYP)
- MAXIMUM RF INPUT POWER - +10 dBm
- LOG VIDEO OUTPUT:
  - OUTPUT COUPLING - DC
  - MAXIMUM OUTPUT VOLTAGE - 2.7 VOLTS
  - RISE TIME - 25 ns MAXIMUM
  - FALL TIME - 30 ns MAXIMUM
  - SETTLING TIME - 40 ns MAXIMUM
  - DC OFFSET - EXTERNALLY ADJUSTABLE
  - SLOPE - ADJUSTABLE TO 30mV/dB
  - LOG SLOPE VARIATION WITH FREQUENCY - ±0.5 mV/dB (OVER 80 MHz RF BANDWIDTH)
  - LOG SLOPE VARIATION WITH TEMPERATURE - ±1 mV MAXIMUM
  - PROPAGATION DELAY - 10 ns MAXIMUM, 7 ns TYPICAL
  - VIDEO LOAD - 100Ω (MINIMUM)
- DC POWER SUPPLY (REGULATED TO 0.1%)
  - +V - +5 VOLTS @30mA (NO VIDEO LOAD)
  - −V - −5 VOLTS @170mA
- SIZE - 0.395" x 0.280" x 0.090"

ENVIRONMENTAL RATINGS

- **TEMPERATURE** - −55°C TO +85°C (OPERATING)
  −65°C TO +100°C (STORAGE)
- **HUMIDITY** - MIL-STD-202F, METHOD 103B COND. B
- **SHOCK** - MIL-STD-202F, METHOD 213B COND. B
- **VIBRATION** - MIL-STD-202F, METHOD 204D COND. B
- **ALTITUDE** - MIL-STD-202F, METHOD 105C COND. B
- **TEMPERATURE CYCLE** - MIL-STD-202F, METHOD 107D COND. A

AVAILABLE OPTIONS

- A01 - EXTENDED DYNAMIC RANGE −80dBm TO +5dBm
- A02 - HIGHER LIMITED IF OUTPUT
- A03 - ALTERNATE LOG SLOPES
- A06 - HIGH POWER RF CW/PEAK PROTECTION
- A08 - SCREENED TO MIL-STD-883 (MODIFIED VISUAL INSPECTION)

APPROVALS	DATE
DRAWN WSP	07/18/95
CHECKED	

PLANAR MONOLITHICS INDUSTRIES
1112 PERKIOMENVILLE RD., PERKIOMENVILLE, PA. 18074
TEL: (215) 754-9230

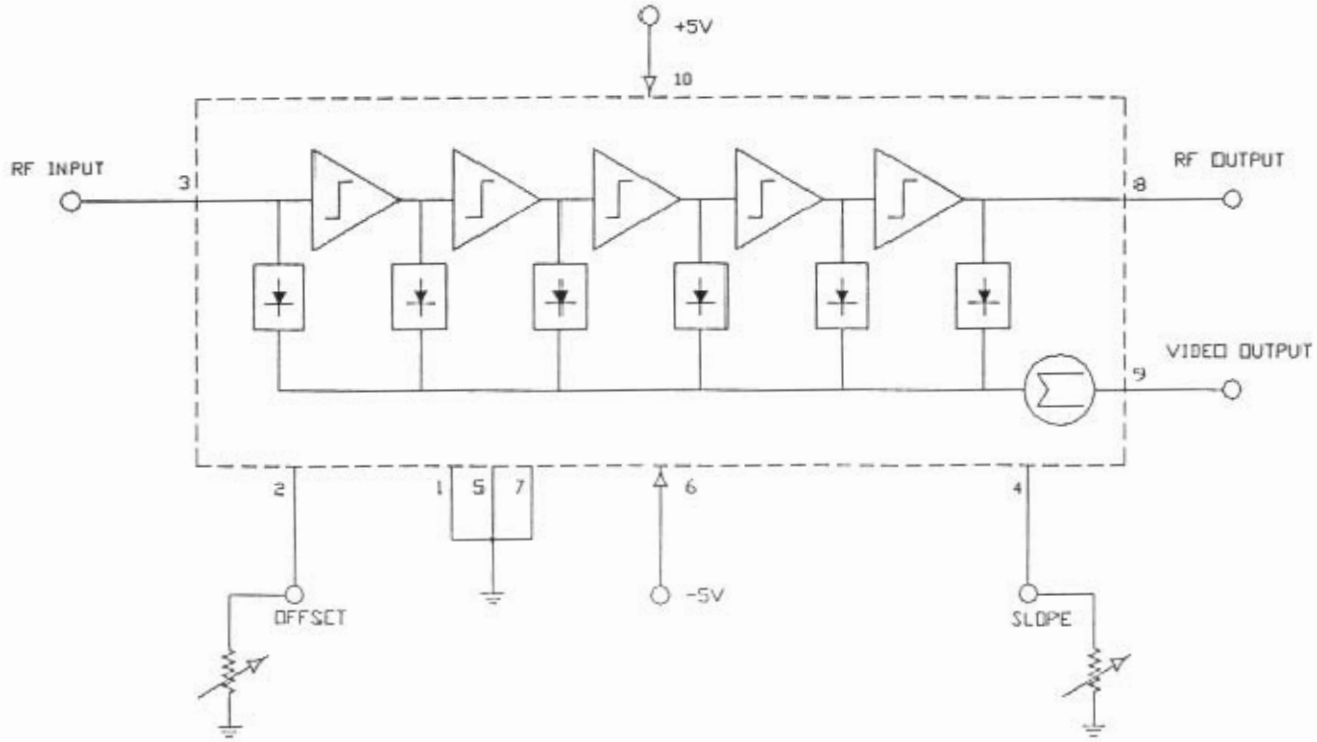
PRODUCT FEATURE

SDLVAC-0120-70M
SLVAC-06135M

0.1 TO 2.0 GHZ, MINIATURE DC-COUPLED, SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER (WITH EXTERNAL REGULATED POWER SUPPLIES)

SIZE A	SHEET 1 OF 2	DWG. # 100-3214

FUNCTIONAL SCHEMATIC



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TEL: (301) 831-4257 FAX: (301) 662-4938

APPROVALS	DATE
DRAWN WSP	07/13/93
CHECKED	

PRODUCT FEATURE

SDLVAC-0120-70M
SLVAC-06135M

0.1 TO 2.0 GHZ, MINIATURE DC-COUPLED, SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER (WITH EXTERNAL REGULATED POWER SUPPLIES)

SIZE A	SHEET 2 OF 2	DWG. # 100-3214

FORM: SDLVA-02/0992 AMC JOB NO: 206152

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER--SDLVA

CUSTOMER: TESTED BY: B. Baker

MODEL NO: SLVA-06135 TEST TEMPERATURE: +30°C

SERIAL NO: 2012 DATE: 10/13/92

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT RF FREQUENCY RANGE	600 to 1350 MHz (min)	Pass	
2	INPUT POWER	10.5 dBm (max)	Pass	
3	LOGGING RANGE (600 TO 1350 MHz)	-60 to 0 dBm (min)	-65 TO +6dBm	
4	LOG SLOPE VARIATION WITH FREQUENCY at 30.5 mV/dB SLOPE SETTING 975 MHz +40 MHz TO 975 MHz -40 MHz, (Repeat @ 600 MHz & 1350 MHz)	±0.45 mV/dB (max)	±0.34 mV/dB	
5	LOG SLOPE ADJUSTABILITY (@ 600, 975, 1350 MHz)	Adjustable to 30.5 mV/dB	Pass	
6	LOG LINEARITY -60 to 0 dBm 600 to 1350 MHz (@ 600, 975, 1350 MHz)	±1.2 dB (max)	±0.8dB	
7	RISE TIME (10 to 90%), 975 MHz	14 (min.) to 24 (max) nS	16nS	
8	FALL TIME (10 to 90%), 975 MHz	17 (min) to 28 (max) nS	22nS	
9	PROPOGATION DELAY, 975 MHz	10 nS (max)	8.75nS	

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FORM: SDLVA-02/0992 AMC JOB NO: 206152

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER--SDLVA

+30°C

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
10	TANGENTIAL SENSITIVITY 20 MHz VIDEO BW VIDEO S + N to N RATIO = 8 dB at 1270.5 MHz	−67 dBm (min)	-69dBm	
11	DC OUTPUT VOLTAGE CW RF INPUT = -60 dBm @975 MHz	T_A = +25°C Adjustable to 225 to 275 mV T_A = −55°C Adjustable to 381 to 431 mV T_A = +85°C Adjustable to 95 to 145 mV	Pass	
12	MAXIMUM OUTPUT VOLTAGE CW RF INPUT = 10.5 dBm @ 975 MHz	2.5 Volts (max)	Pass	
13	DC CURRENT +5.0 V VIDEO LOAD = 100Ω, 8pf, ±10%	40 mA (max)	38 mA	
14	DC CURRENT −5.0 V VIDEO LOAD = 100Ω, 8pf, ±10%	165 mA (max)	133 mA	
15	VSWR INPUT 600 to 1350 MHz	1.5:1 (max)	1.35:1	
16	SETTLING TIME TO WITHIN ±25 mV OF FINAL VALUE	35 nS (max)	34ns	

PRODUCTION MANAGER APPROVAL: _____ DATED: 11th December, 1992

QA/QC APPROVAL: _____ DATED: _____

FORM: SDLVA-02/0992 AMC JOB NO: 206152

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER--SDLVA

CUSTOMER: _____ TESTED BY: B. Baker

MODEL NO: SLVA-06135 TEST TEMPERATURE: -55°C

SERIAL NO: 2012 DATE: 10/13/92

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT RF FREQUENCY RANGE	600 to 1350 MHz (min)	PASS	
2	INPUT POWER	10.5 dBm (max)	PASS	
3	LOGGING RANGE (600 TO 1350 MHz)	-60 to 0 dBm (min)	-66 TO +4dBm	
4	LOG SLOPE VARIATION WITH FREQUENCY at 30.5 mV/dB SLOPE SETTING 975 MHz +40 MHz TO 975 MHz -40 MHz, (Repeat @ 600 MHz & 1350 MHz)	±0.45 mV/dB (max)	±0.3L mV/dB	
5	LOG SLOPE ADJUSTABILITY (@ 600, 975, 1350 MHz)	Adjustable to 30.5 mV/dB	PASS	
6	LOG LINEARITY -60 to 0 dBm 600 to 1350 MHz (@ 600, 975, 1350 MHz)	±1.2 dB (max)	±0.7dB	
7	RISE TIME (10 to 90%), 975 MHz	14 (min.) to 24 (max) nS	21 nS	
8	FALL TIME (10 to 90%), 975 MHz	17 (min) to 28 (max) nS	21 nS	
9	PROPOGATION DELAY, 975 MHz	10 nS (max)	8.3 nS	

FORM: SDLVA-02/0992 AMC JOB NO: 206152

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER--SDLVA

-55°C

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
10	TANGENTIAL SENSITIVITY 20 MHz VIDEO BW VIDEO S + N to N RATIO = 8 dB at 1270.5 MHz	−67 dBm (min)	-70 dBm	
11	DC OUTPUT VOLTAGE CW RF INPUT = -60 dBm @975 MHz	T_A = +25°C Adjustable to 225 to 275 mV T_A = −55°C Adjustable to 381 to 431 mV T_A = +85°C Adjustable to 95 to 145 mV	PASS	
12	MAXIMUM OUTPUT VOLTAGE CW RF INPUT = 10.5 dBm @ 975 MHz	2.5 Volts (max)	PASS	
13	DC CURRENT +5.0 V VIDEO LOAD = 100Ω, 8pf, ±10%	40 mA (max)	38 mA	
14	DC CURRENT −5.0 V VIDEO LOAD = 100Ω, 8pf, ±10%	165 mA (max)	139 mA	
15	VSWR INPUT 600 to 1350 MHz	1.5:1 (max)	1.35:1	
16	SETTLING TIME TO WITHIN ±25 mV OF FINAL VALUE	35 nS (max)	PASS 35nSec	

PRODUCTION MANAGER APPROVAL: _____ DATED: 11th December, 1992

QA/QC APPROVAL: _____ DATED: 12/11/92

FORM: SDLVA-02/0992 AMC JOB NO: 206152

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER--SDLVA

CUSTOMER: _____ TESTED BY: B. Baker

MODEL NO: SLVA -06135 TEST TEMPERATURE: +85°C

SERIAL NO: 2012 DATE: 10/13/92

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	INPUT RF FREQUENCY RANGE	600 to 1350 MHz (min)	PASS	
2	INPUT POWER	10.5 dBm (max)	PASS	
3	LOGGING RANGE (600 TO 1350 MHz)	-60 to 0 dBm (min)	-64 TO +5dBM	
4	LOG SLOPE VARIATION WITH FREQUENCY at 30.5 mV/dB SLOPE SETTING 975 MHz +40 MHz TO 975 MHz -40 MHz, (Repeat @ 600 MHz & 1350 MHz)	±0.45 mV/dB (max)	±34.5 mV/dB	
5	LOG SLOPE ADJUSTABILITY (@ 600, 975, 1350 MHz)	Adjustable to 30.5 mV/dB	[illegible]	
6	LOG LINEARITY -60 to 0 dBm 600 to 1350 MHz (@ 600, 975, 1350 MHz)	±1.2 dB (max)	-1.2dB max	
7	RISE TIME (10 to 90%), 975 MHz	14 (min.) to 24 (max) nS	18nS	
8	FALL TIME (10 to 90%), 975 MHz	17 (min) to 28 (max) nS	20 nS	
9	PROPOGATION DELAY, 975 MHz	10 nS (max)	9.5nS	

FORM: SDLVA-02/0992 AMC JOB NO: 206152

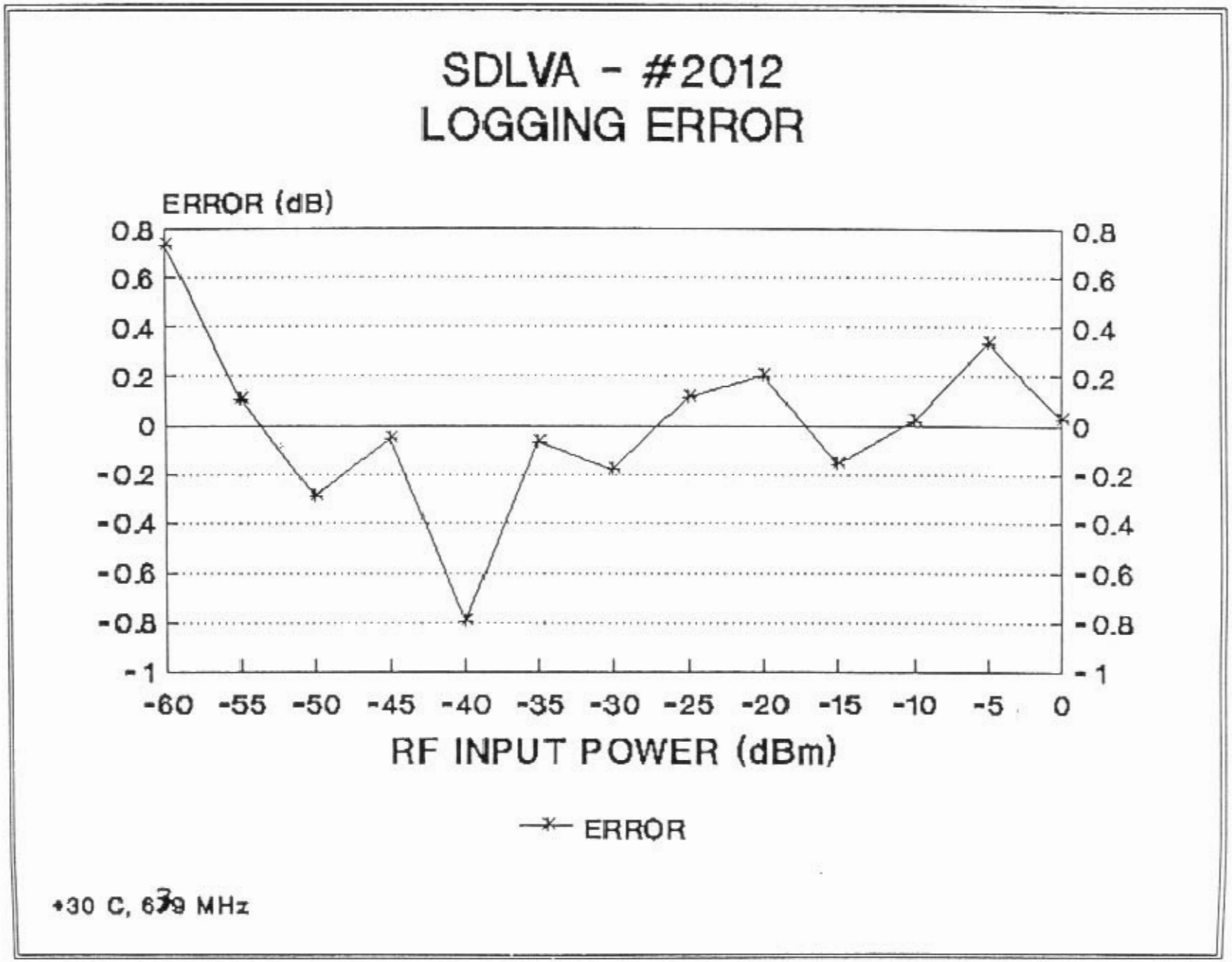
SUMMARY TEST DATA
ON
SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER--SDLVA

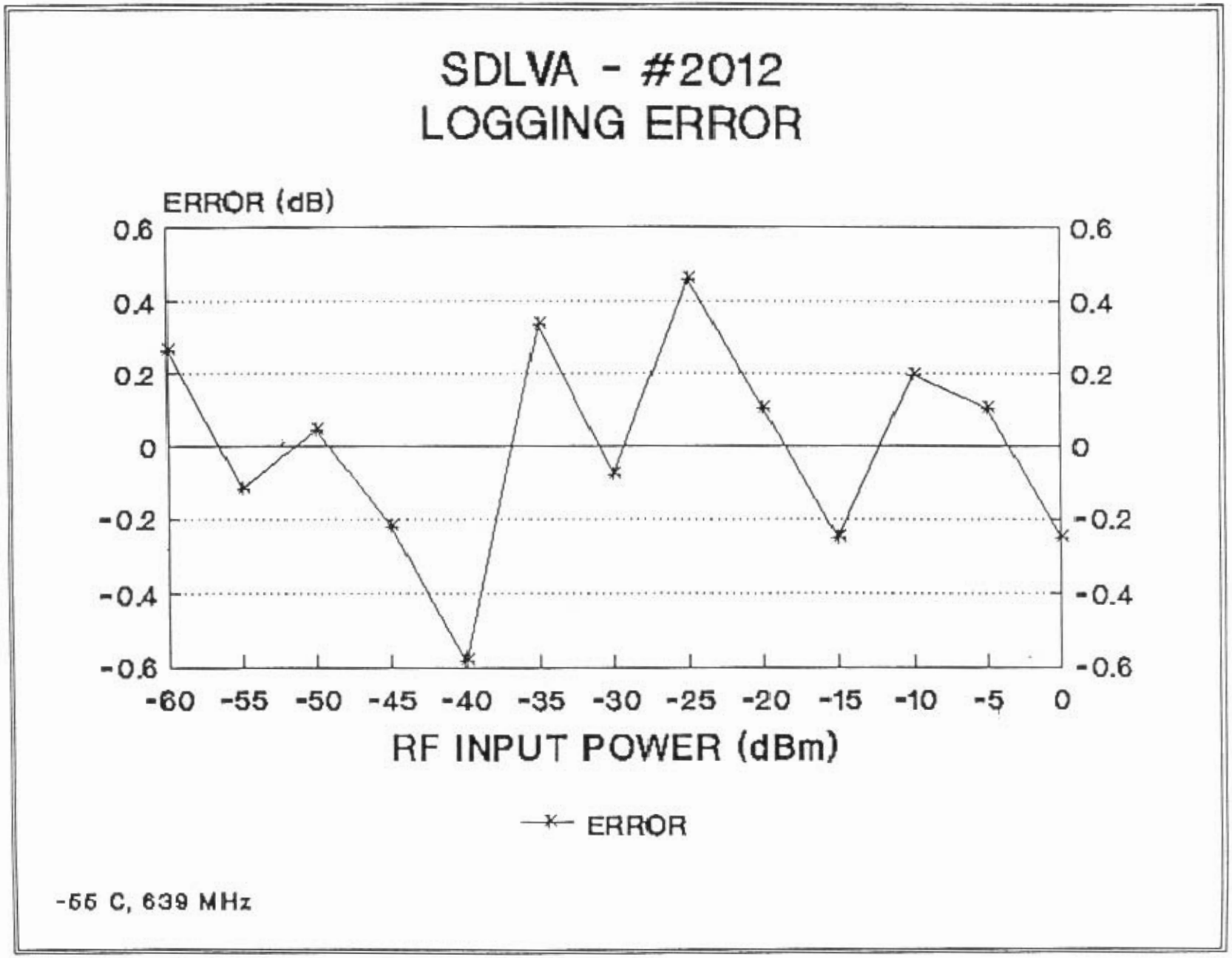
+85°C

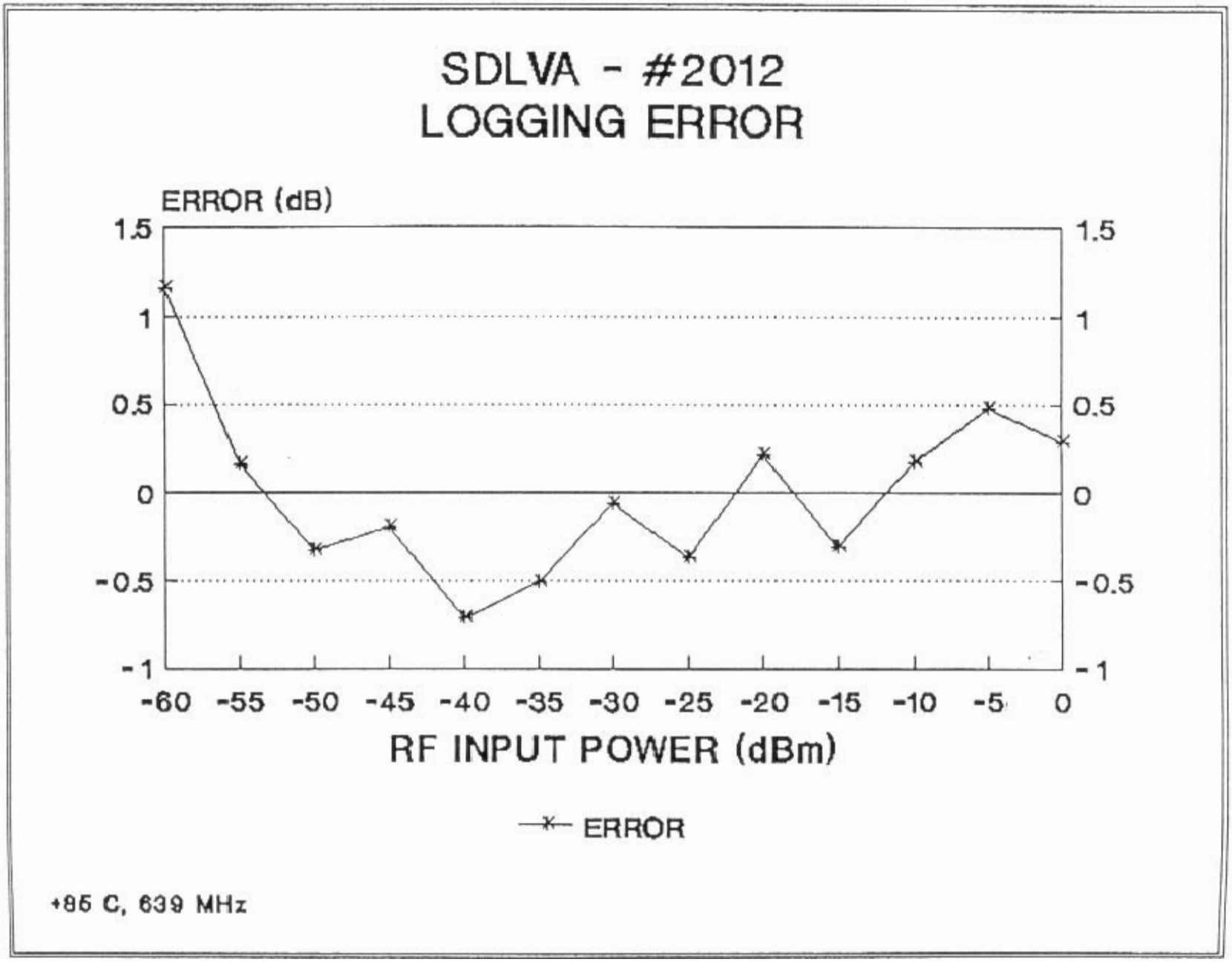
TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
10	TANGENTIAL SENSITIVITY 20 MHz VIDEO BW VIDEO S + N to N RATIO = 8 dB at 1270.5 MHz	−67 dBm (min)	-68dBm	
11	DC OUTPUT VOLTAGE CW RF INPUT = -60 dBm @975 MHz	T_A = +25°C Adjustable to 225 to 275 mV T_A = −55°C Adjustable to 381 to 431 mV T_A = +85°C Adjustable to 95 to 145 mV	Pass	
12	MAXIMUM OUTPUT VOLTAGE CW RF INPUT = 10.5 dBm @ 975 MHz	2.5 Volts (max)	Pass	
13	DC CURRENT +5.0 V VIDEO LOAD = 100Ω, 8pf, ±10%	40 mA (max)	32mA	
14	DC CURRENT −5.0 V VIDEO LOAD = 100Ω, 8pf, ±10%	165 mA (max)	139mA	
15	VSWR INPUT 600 to 1350 MHz	1.5:1 (max)	1.35:1	
16	SETTLING TIME TO WITHIN ±25 mV OF FINAL VALUE	35 nS (max)	35nS	

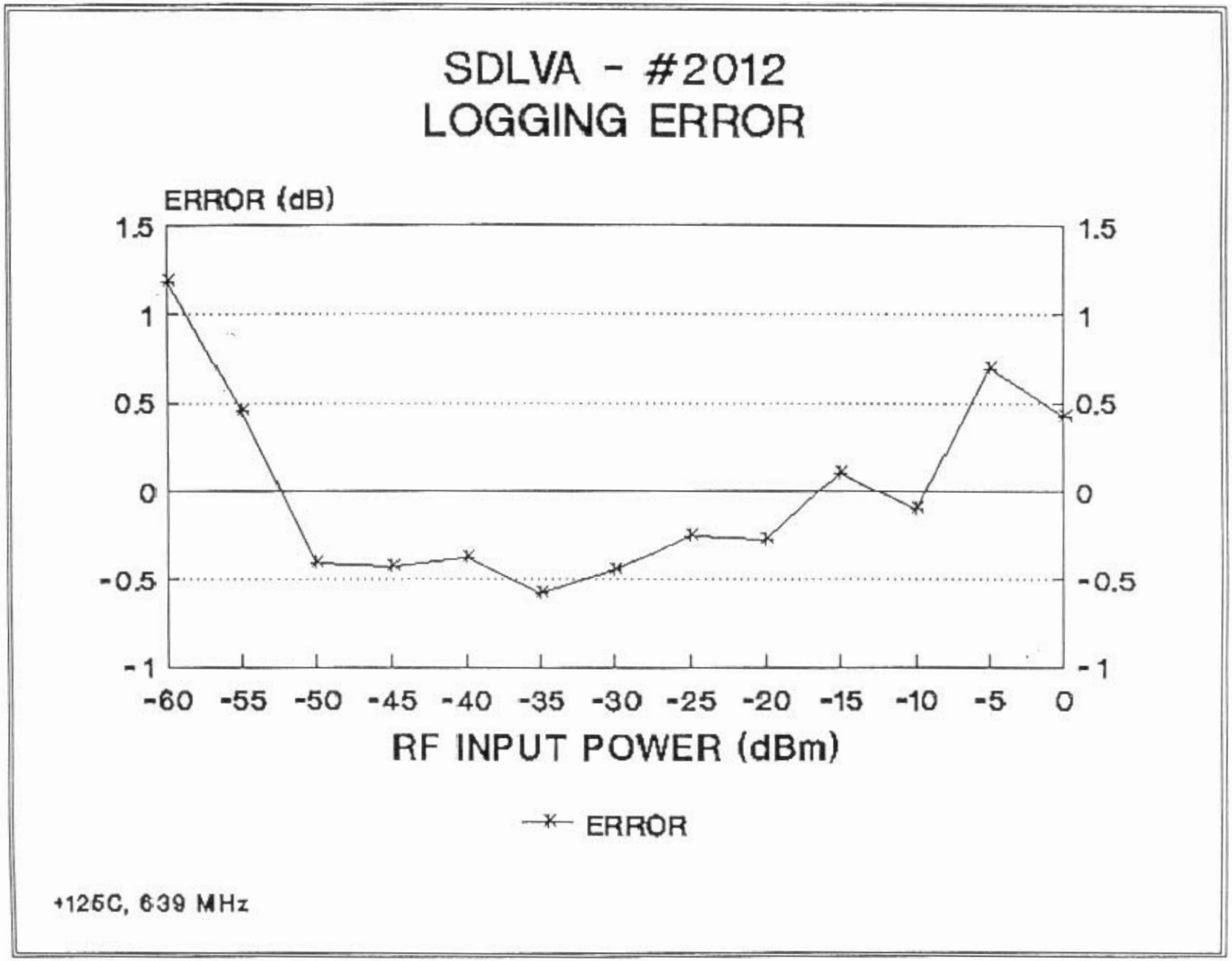
PRODUCTION MANAGER APPROVAL: _____ DATED: 11th December, 1992

QA/QC APPROVAL: _____ DATED: 12/11/92

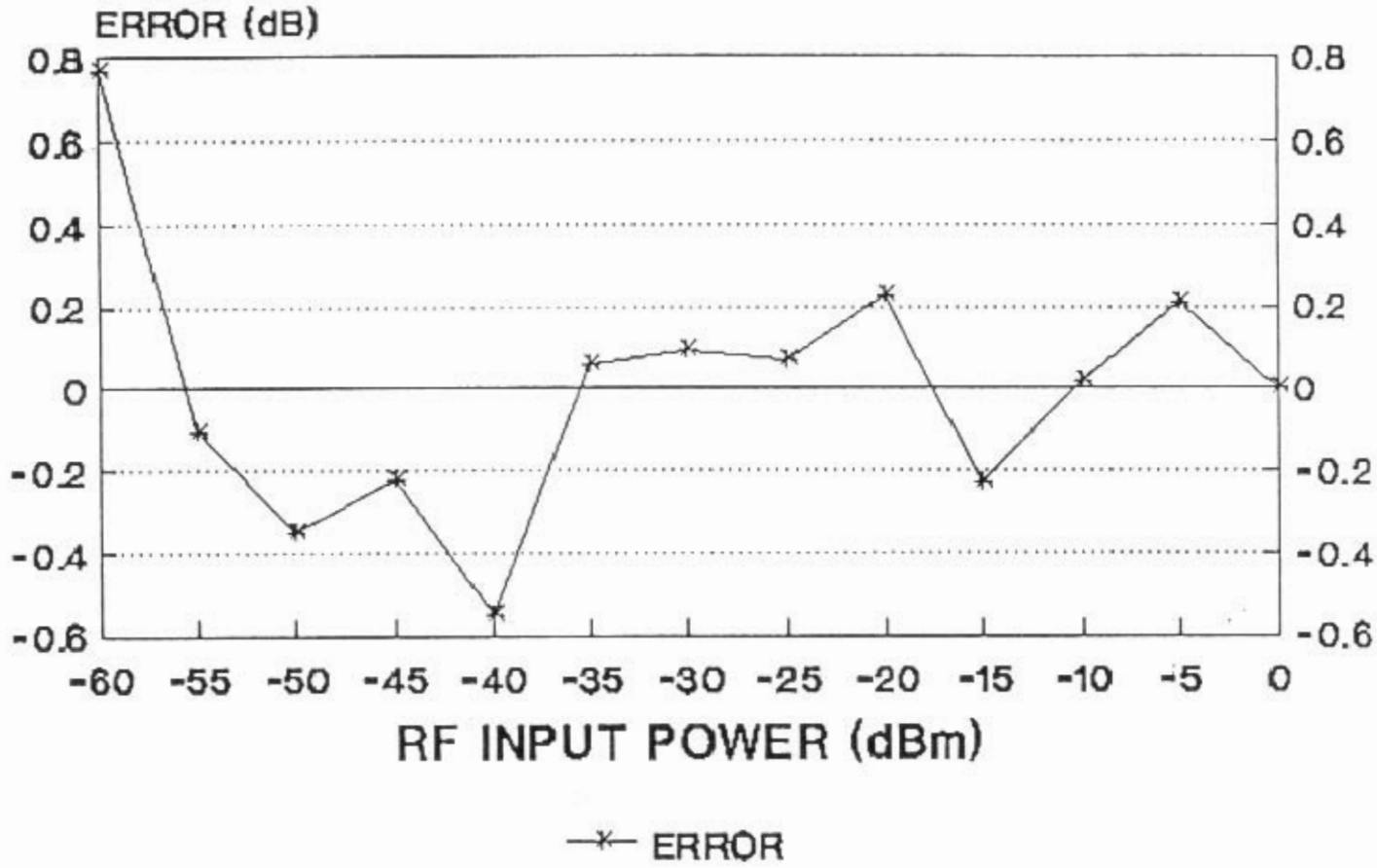

SDLVA - #2012
LOGGING ERROR
ERROR (dB)
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
-60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0
RF INPUT POWER (dBm)
ERROR
+30 C, 679 MHz


SDLVA - #2012
LOGGING ERROR
ERROR (dB)
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0
RF INPUT POWER (dBm)
ERROR
-55 C, 639 MHz

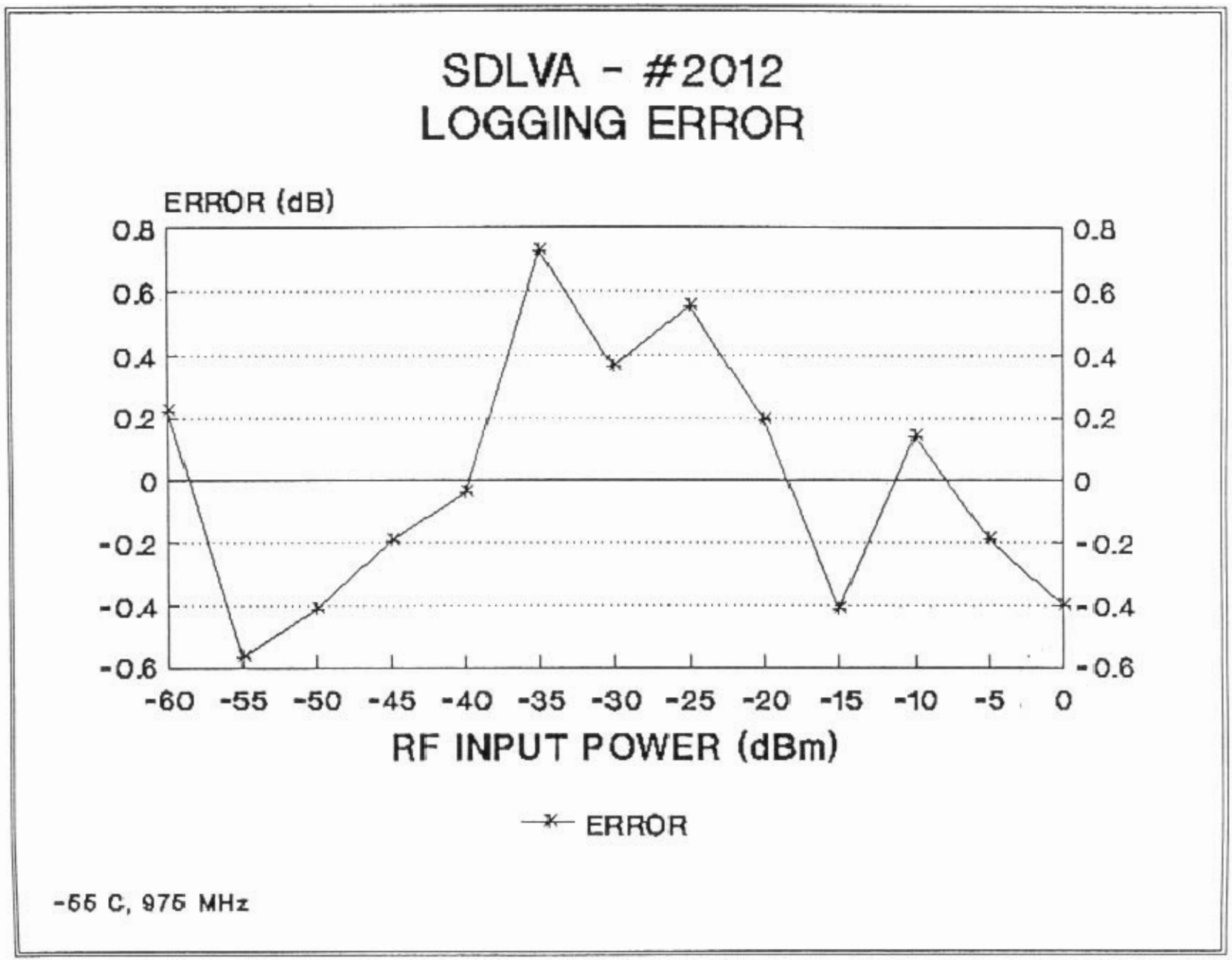

SDLVA - #2012
LOGGING ERROR
ERROR (dB)
1.5
1
0.5
0
-0.5
-1
-60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0
RF INPUT POWER (dBm)
ERROR
+85 C, 639 MHz

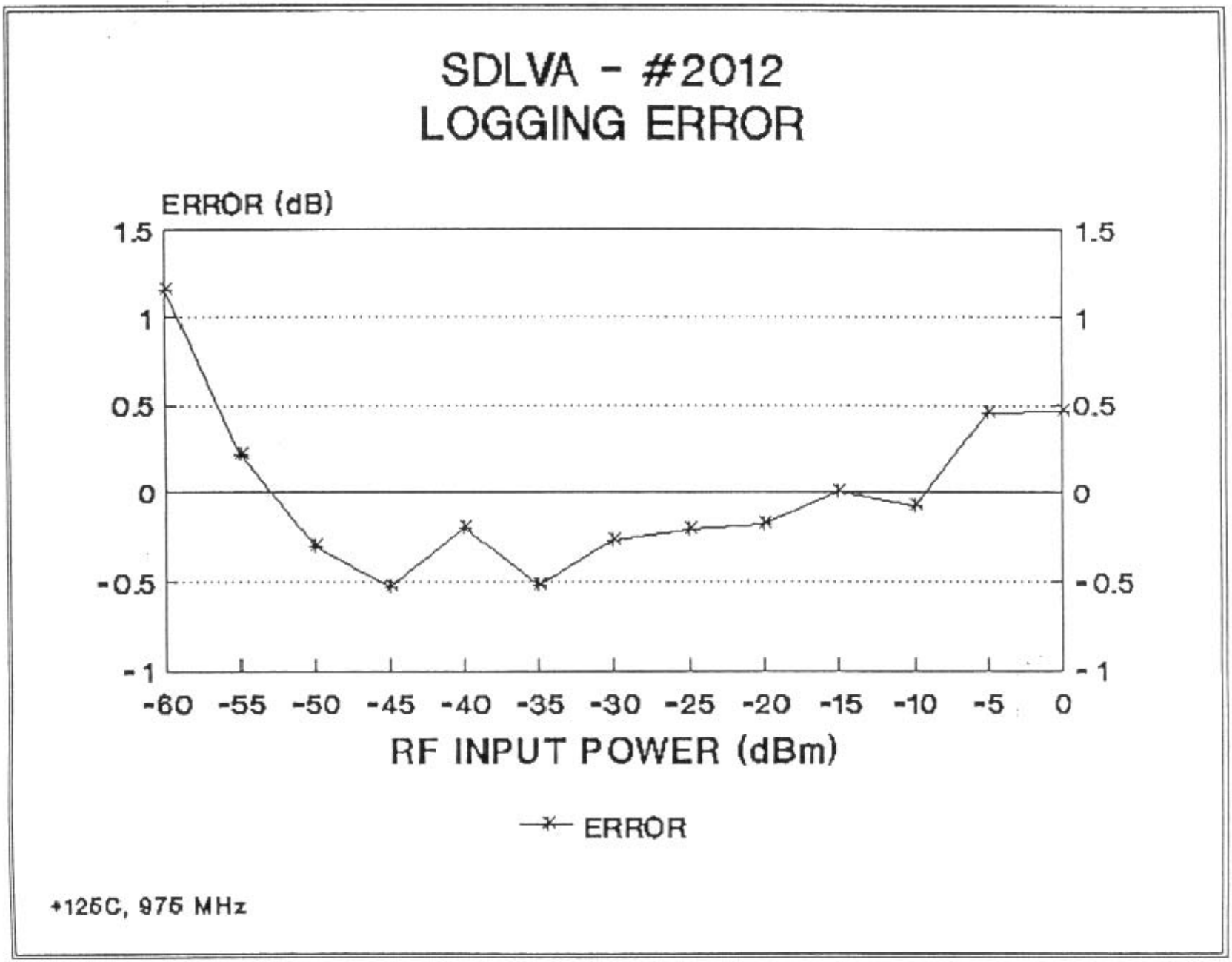

SDLVA - #2012
LOGGING ERROR
ERROR (dB)
1.5
1
0.5
0
-0.5
-1
-60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0
RF INPUT POWER (dBm)
ERROR
+125C, 639 MHz

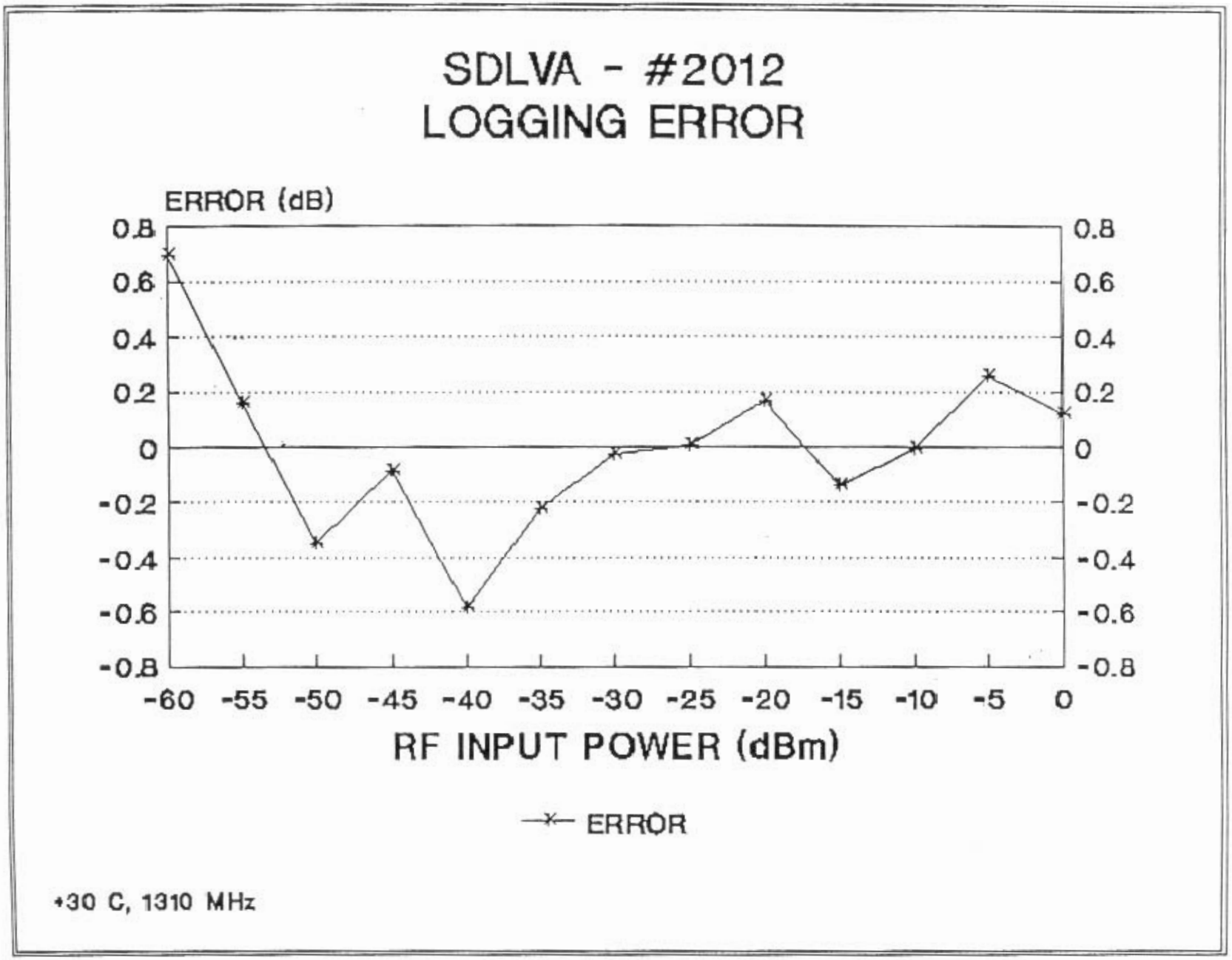
SDLVA - #2012
LOGGING ERROR

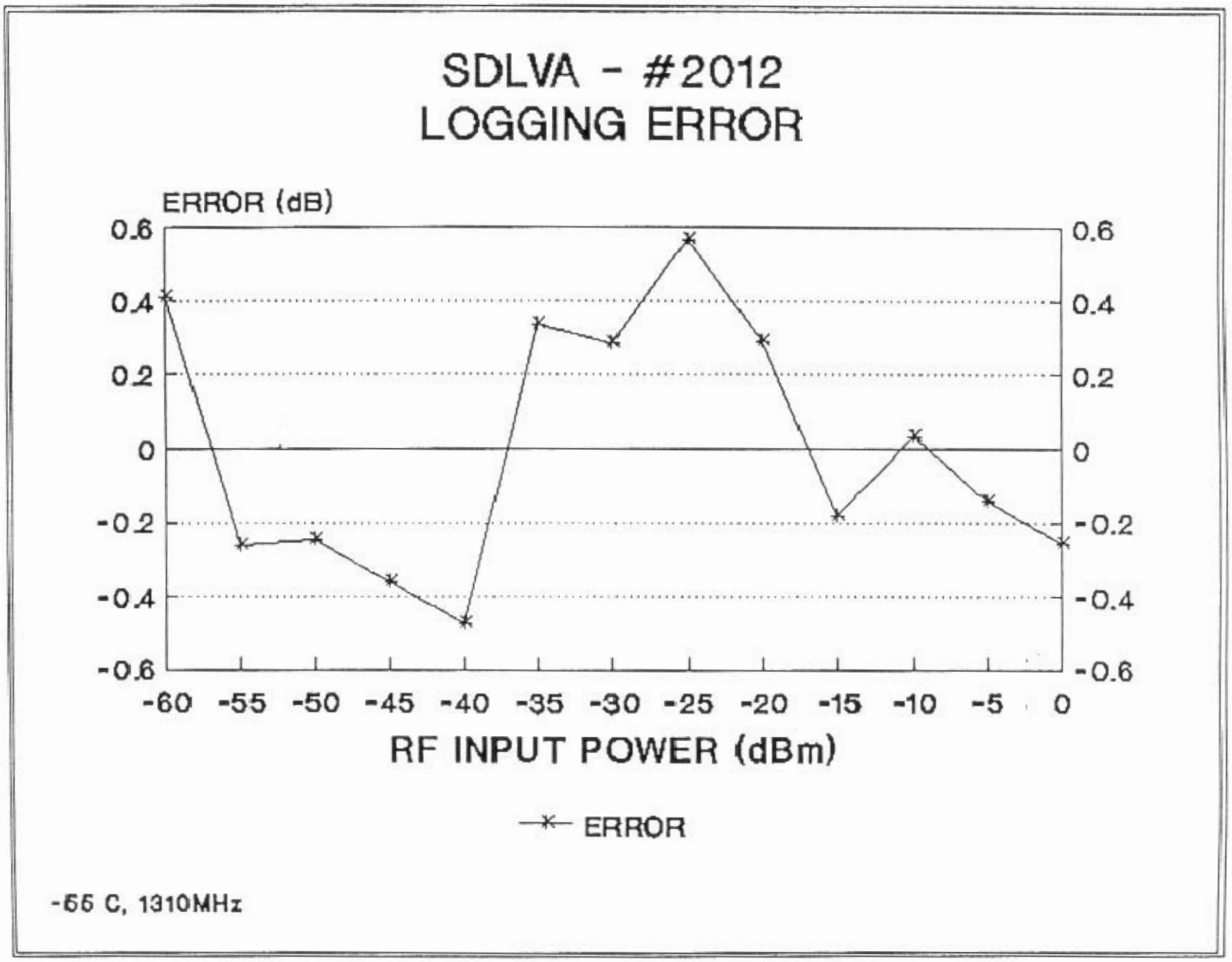


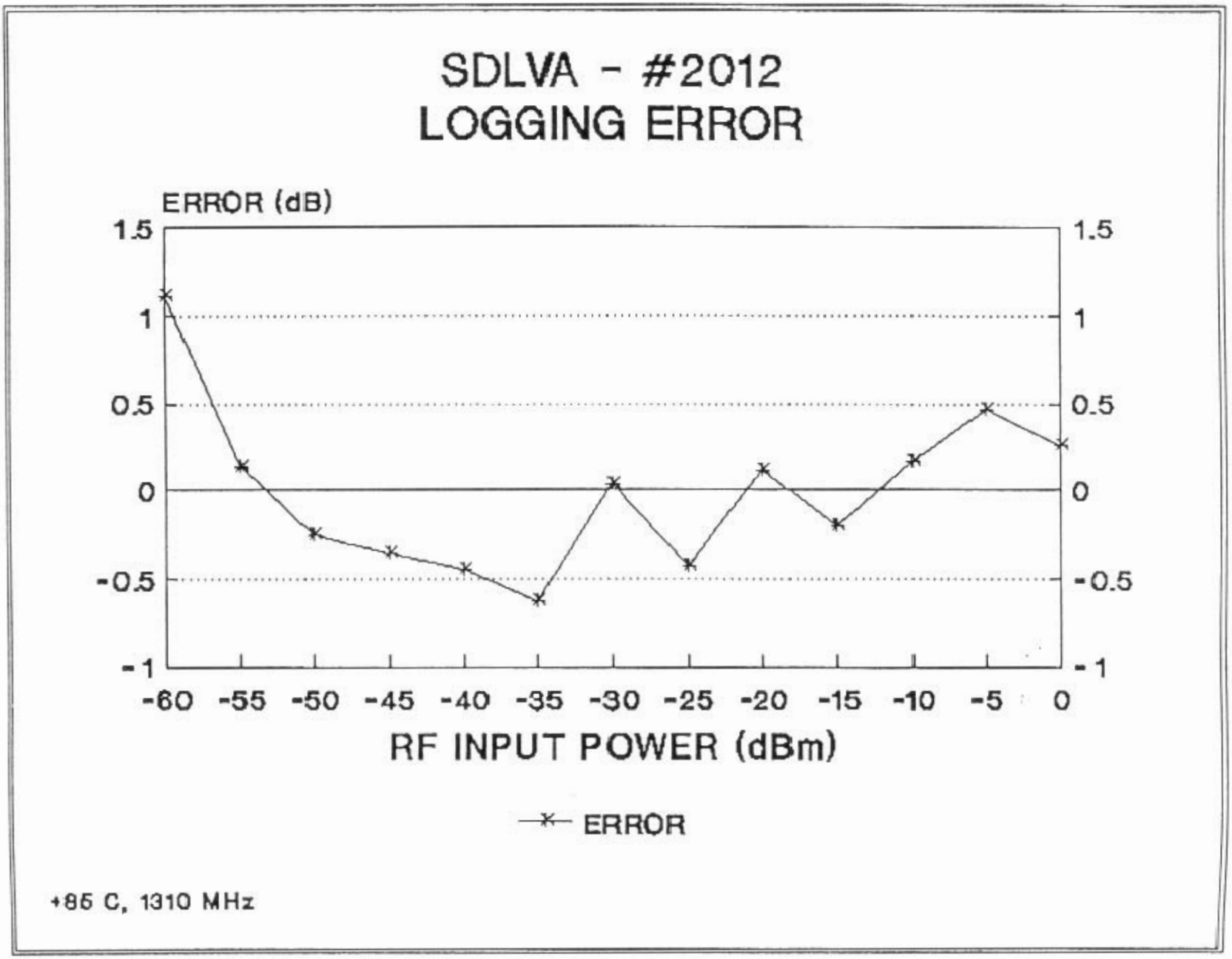
+30 C, 975 MHz

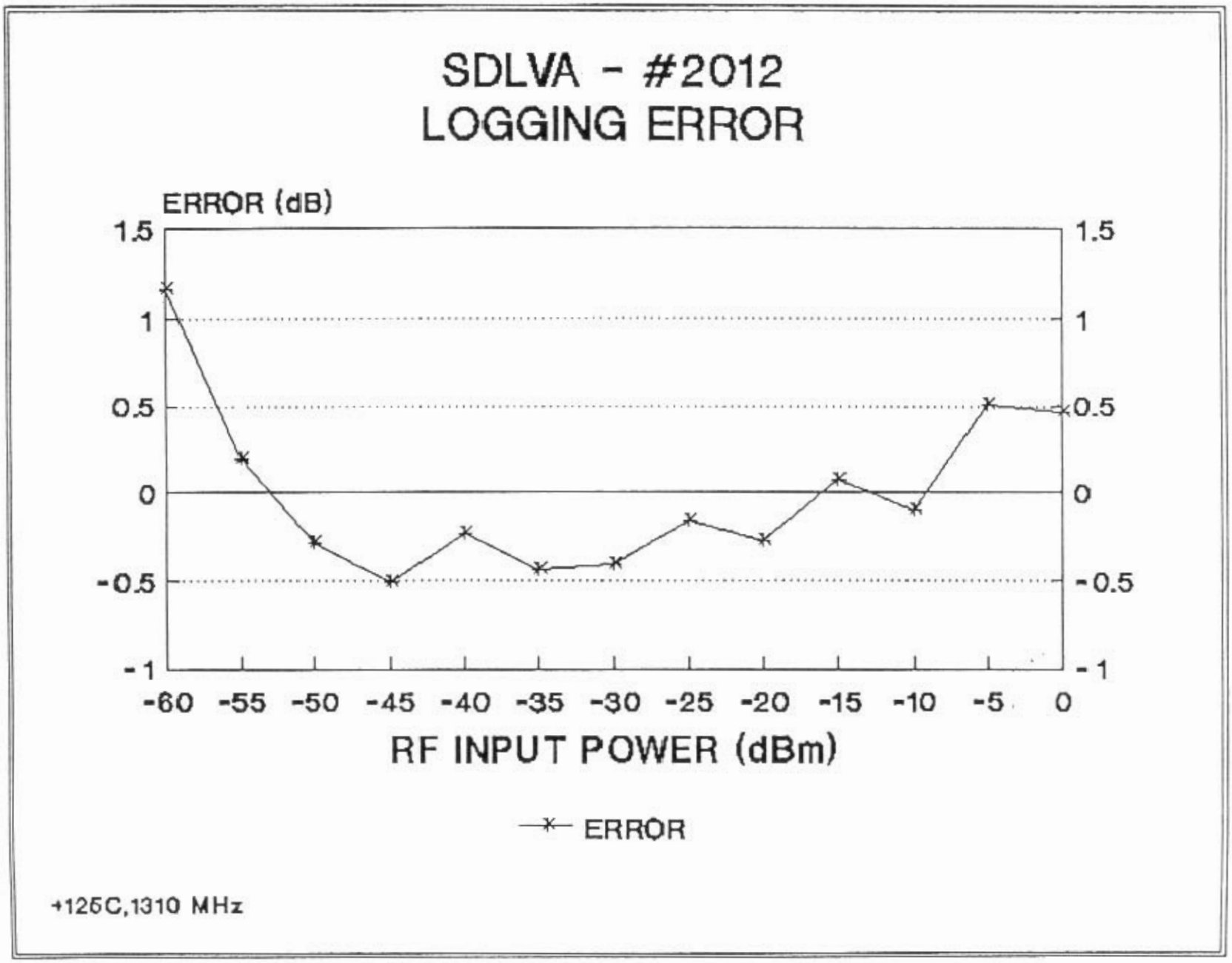

SDLVA - #2012
LOGGING ERROR
ERROR (dB)
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0
RF INPUT POWER (dBm)
ERROR
-55 C, 975 MHz

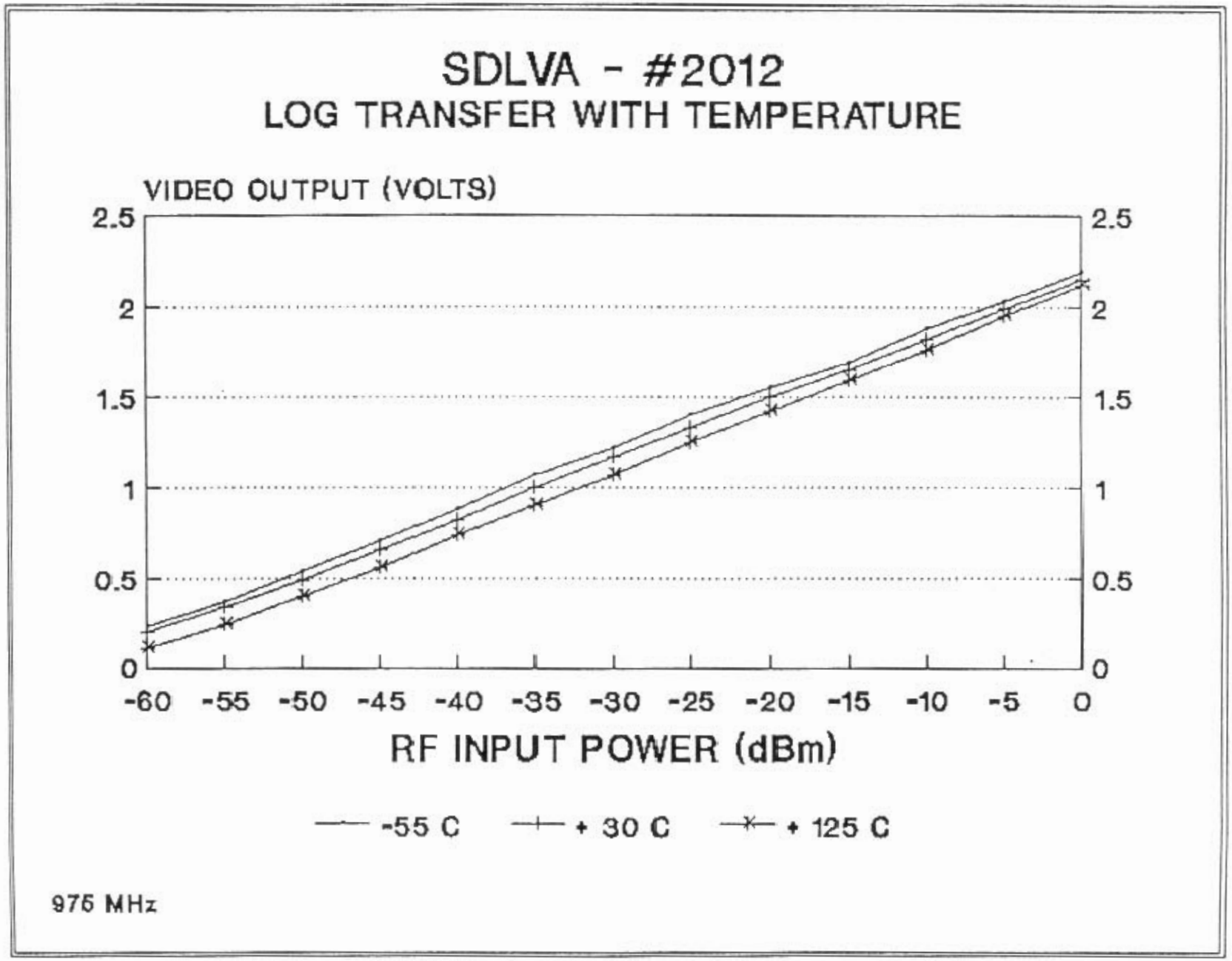

SDLVA - #2012
LOGGING ERROR
ERROR (dB)
1.5
1
0.5
0
-0.5
-1
-60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0
RF INPUT POWER (dBm)
ERROR
+125C, 975 MHz

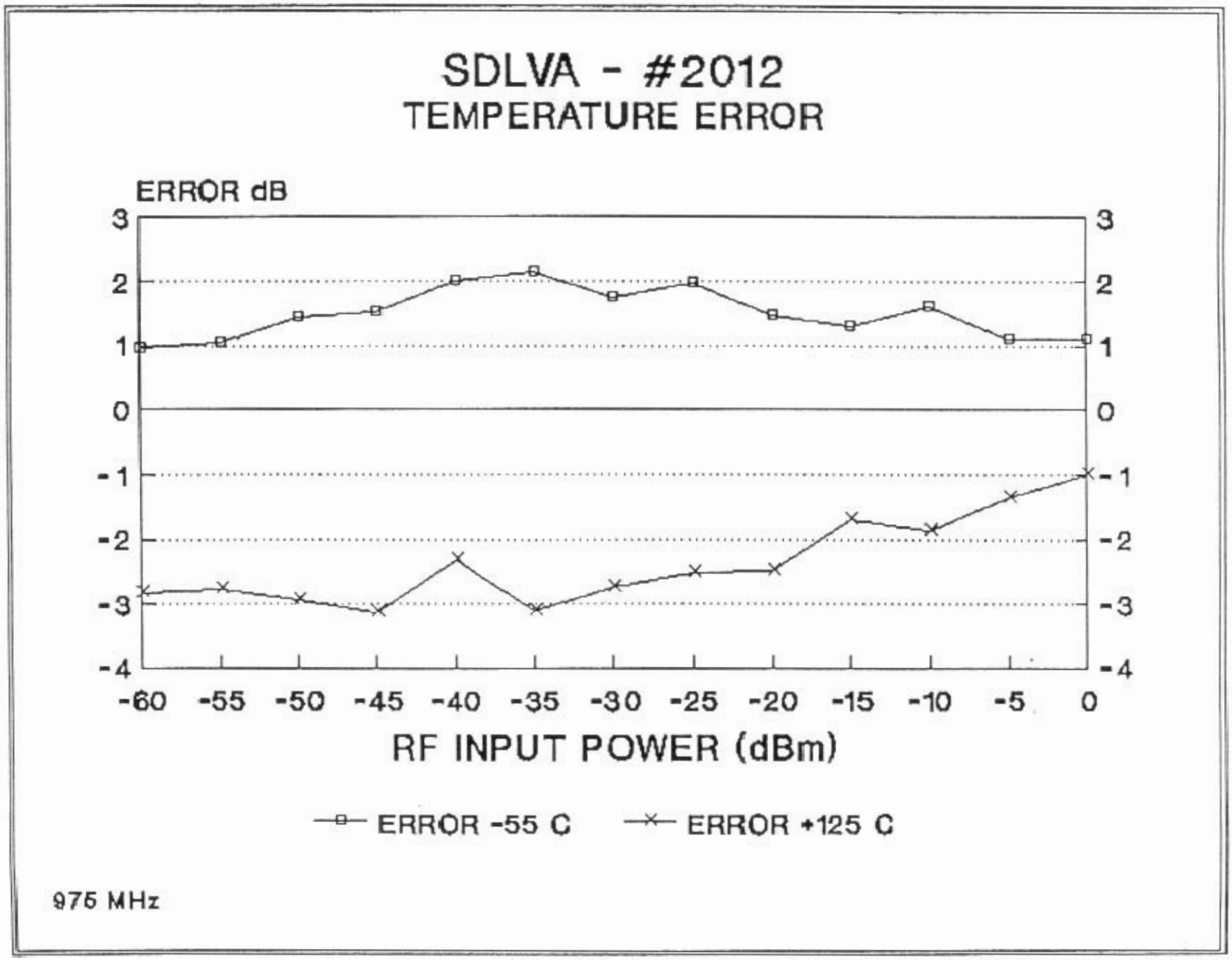

SDLVA - #2012
LOGGING ERROR
ERROR (dB)
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0
RF INPUT POWER (dBm)
ERROR
+30 C, 1310 MHz


SDLVA - #2012
LOGGING ERROR
ERROR (dB)
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0
RF INPUT POWER (dBm)
ERROR
-55 C, 1310MHz

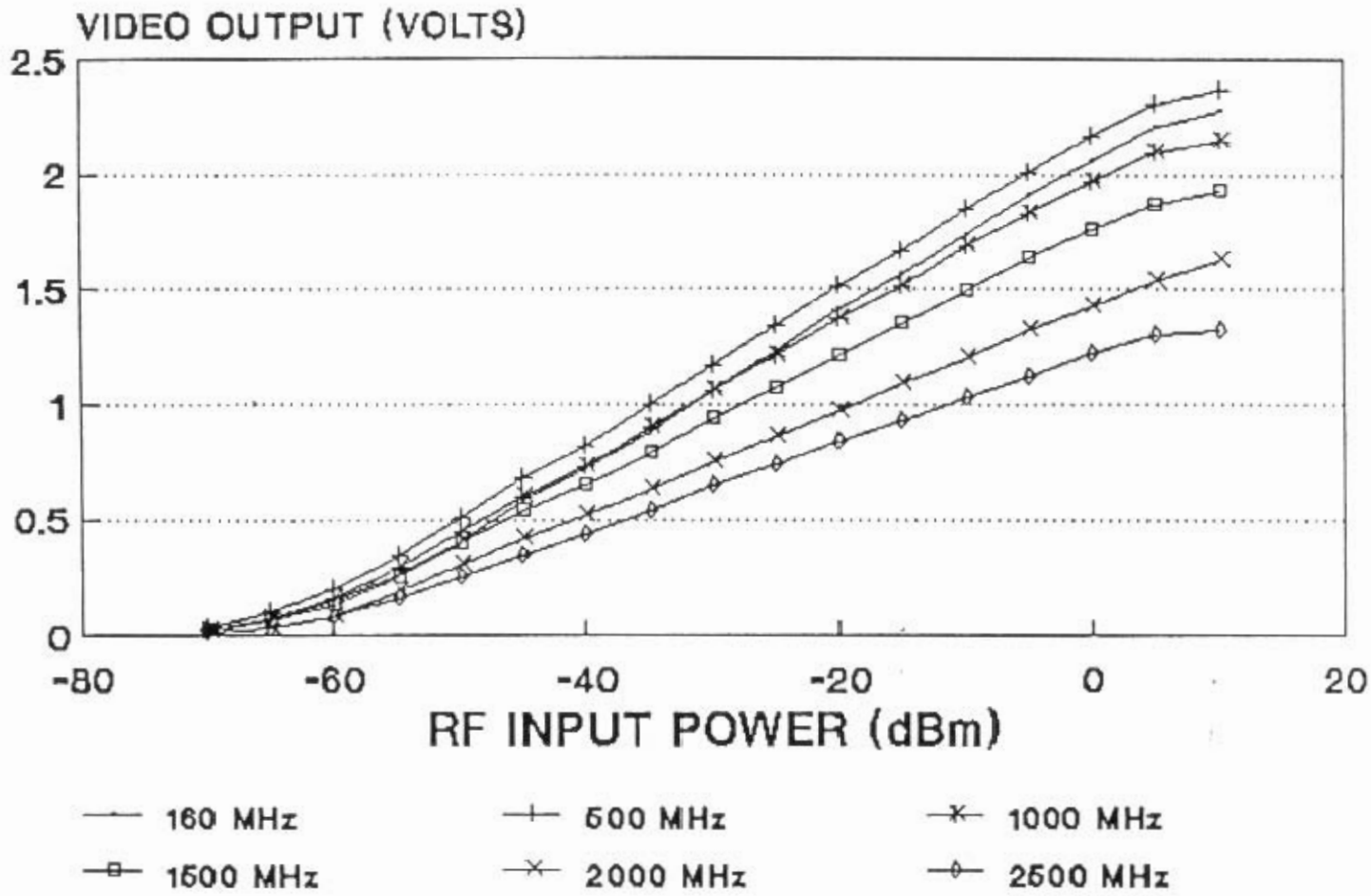

SDLVA - #2012
LOGGING ERROR
ERROR (dB)
1.5
1
0.5
0
-0.5
-1
-60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0
RF INPUT POWER (dBm)
ERROR
+85 C, 1310 MHz


SDLVA - #2012
LOGGING ERROR
ERROR (dB)
1.5
1
0.5
0
-0.5
-1
-60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0
RF INPUT POWER (dBm)
ERROR
+125C,1310 MHz


SDLVA - #2012
LOG TRANSFER WITH TEMPERATURE
VIDEO OUTPUT (VOLTS)
2.5
2
1.5
1
0.5
0
-60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0
RF INPUT POWER (dBm)
-55 C
+ 30 C
+ 125 C
975 MHz

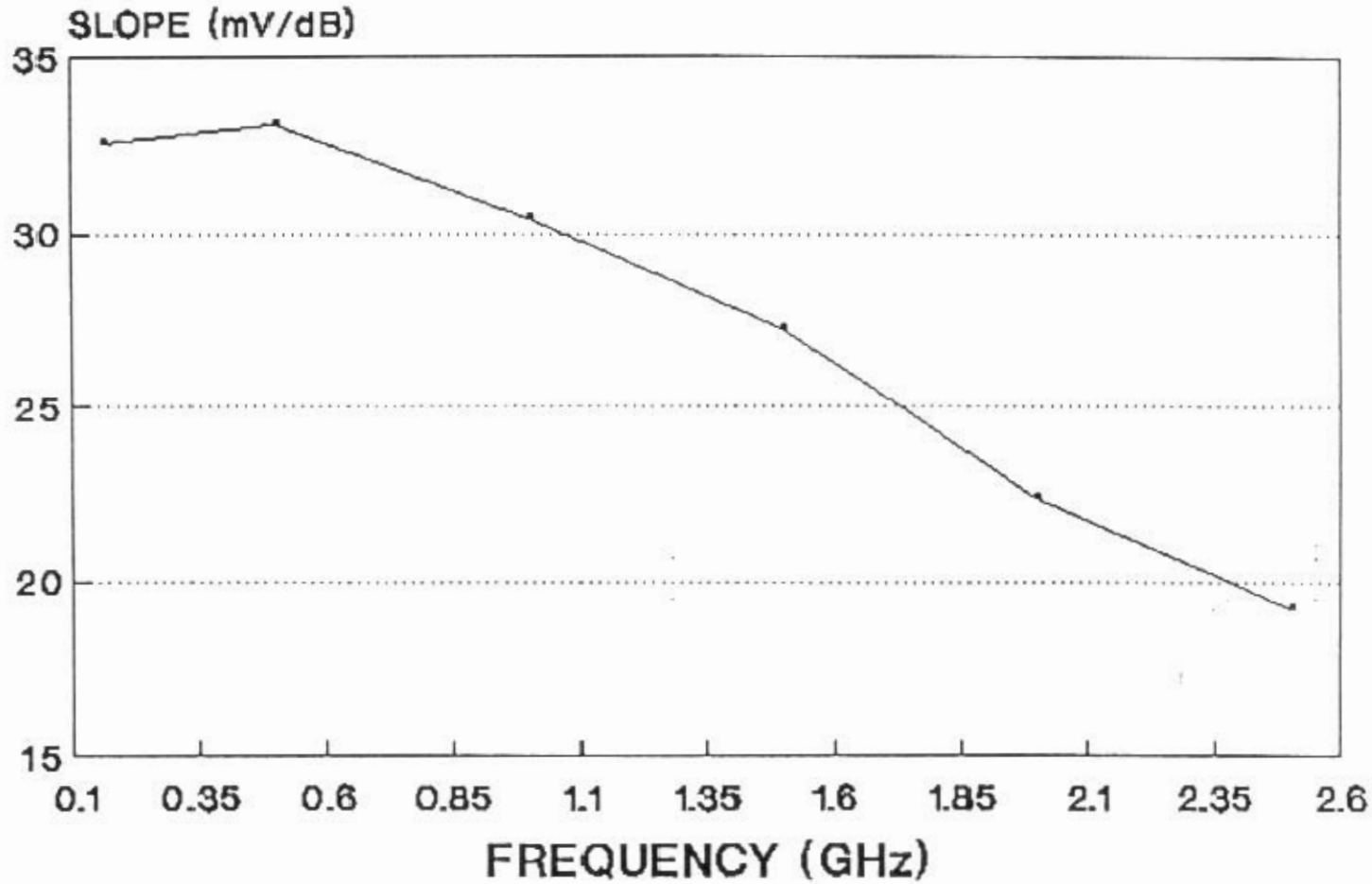

SDLVA - #2012
TEMPERATURE ERROR
ERROR dB
3
2
1
0
-1
-2
-3
-4
-60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0
RF INPUT POWER (dBm)
ERROR -55 C
ERROR +125 C
975 MHz

LOG RESPONSE WITH FREQUENCY



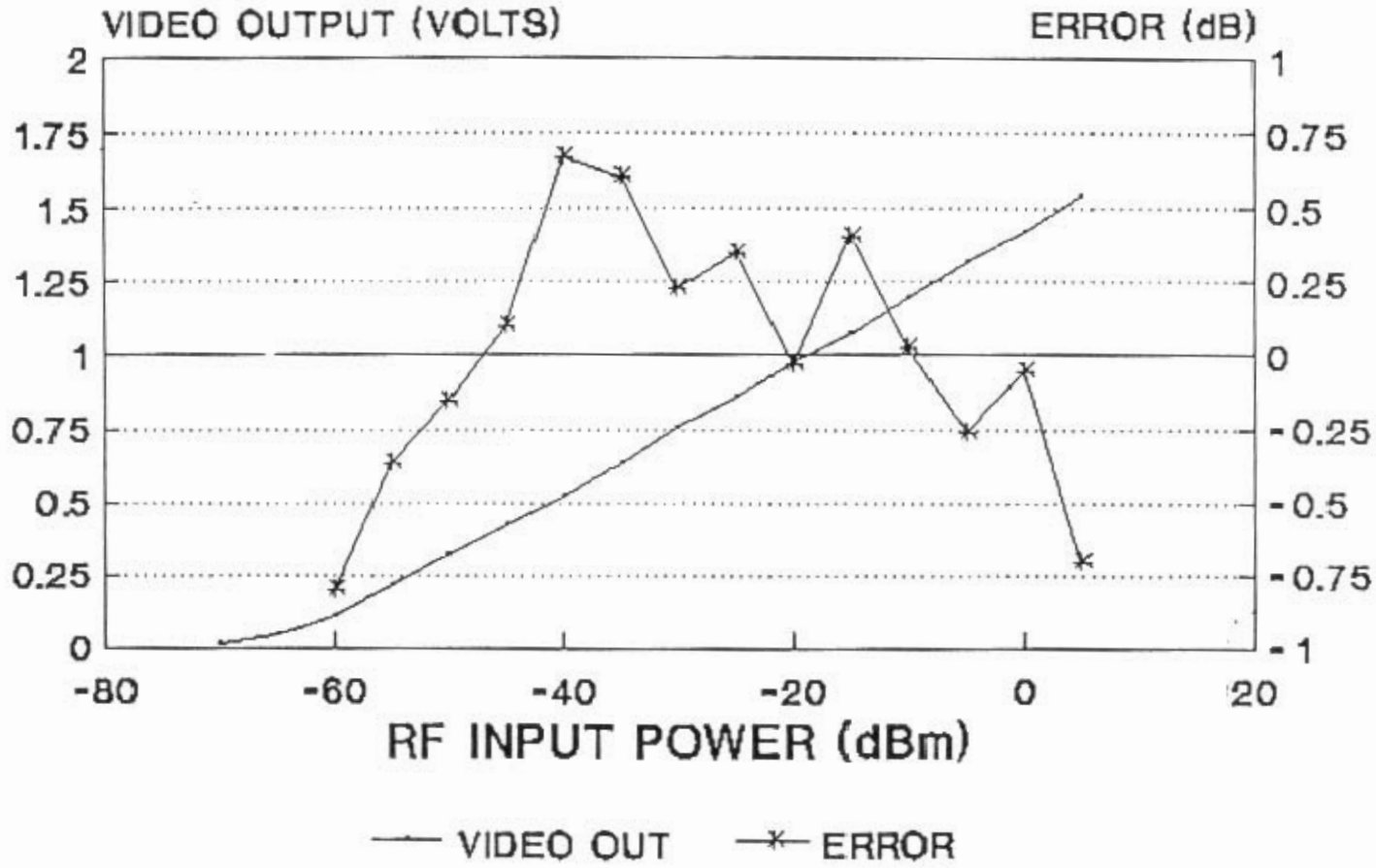
S/N: 2012, 30 C

LOG SLOPE VARIATION WITH FREQUENCY



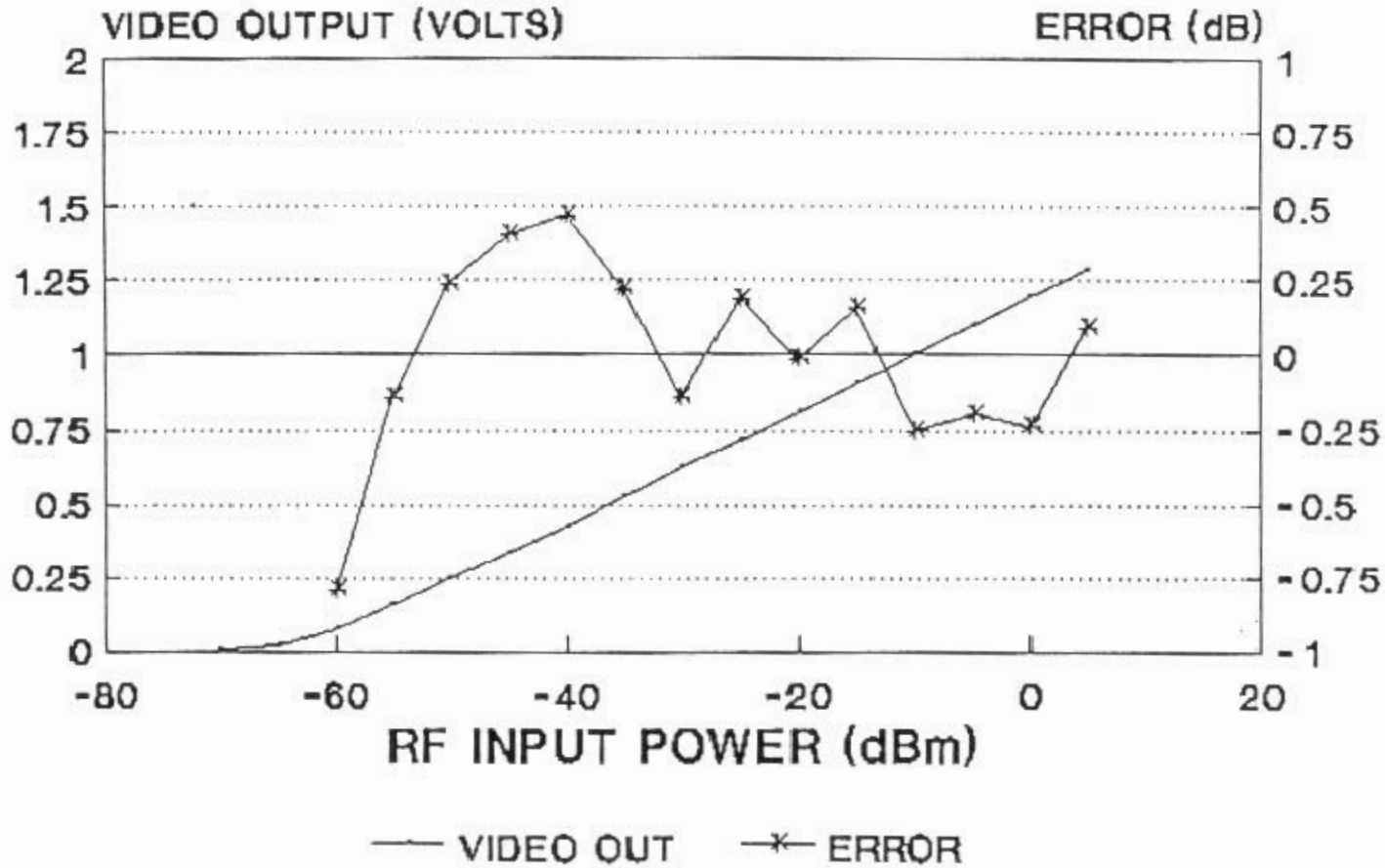
S/N: 2012, 30 C

SLVA-06135
LOG TRANSFER & ERROR - 2GHz



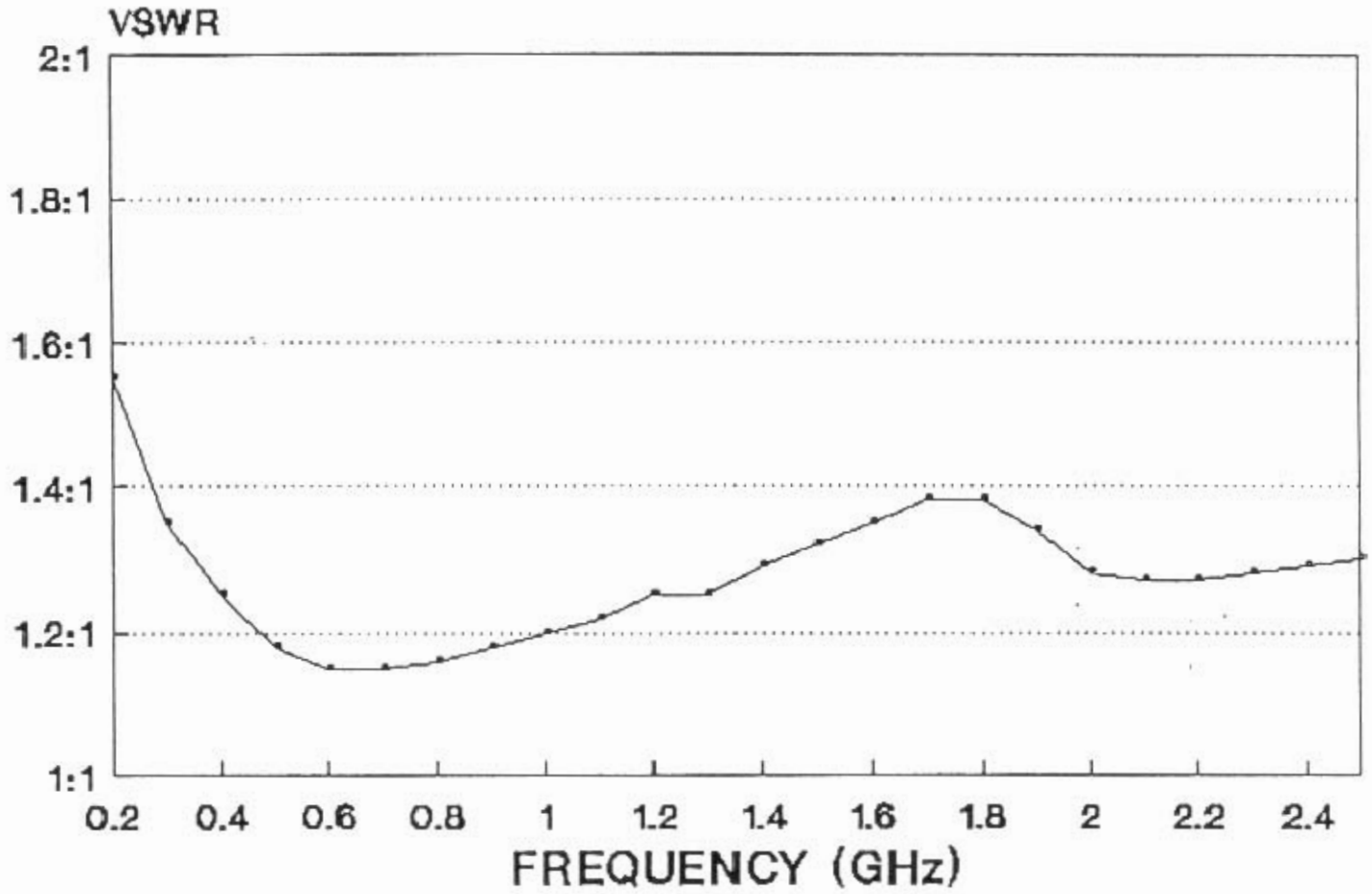
+25 C, 11/11/92, S/N 2012

SLVA-06135
LOG TRANSFER & ERROR - 2.5GHz



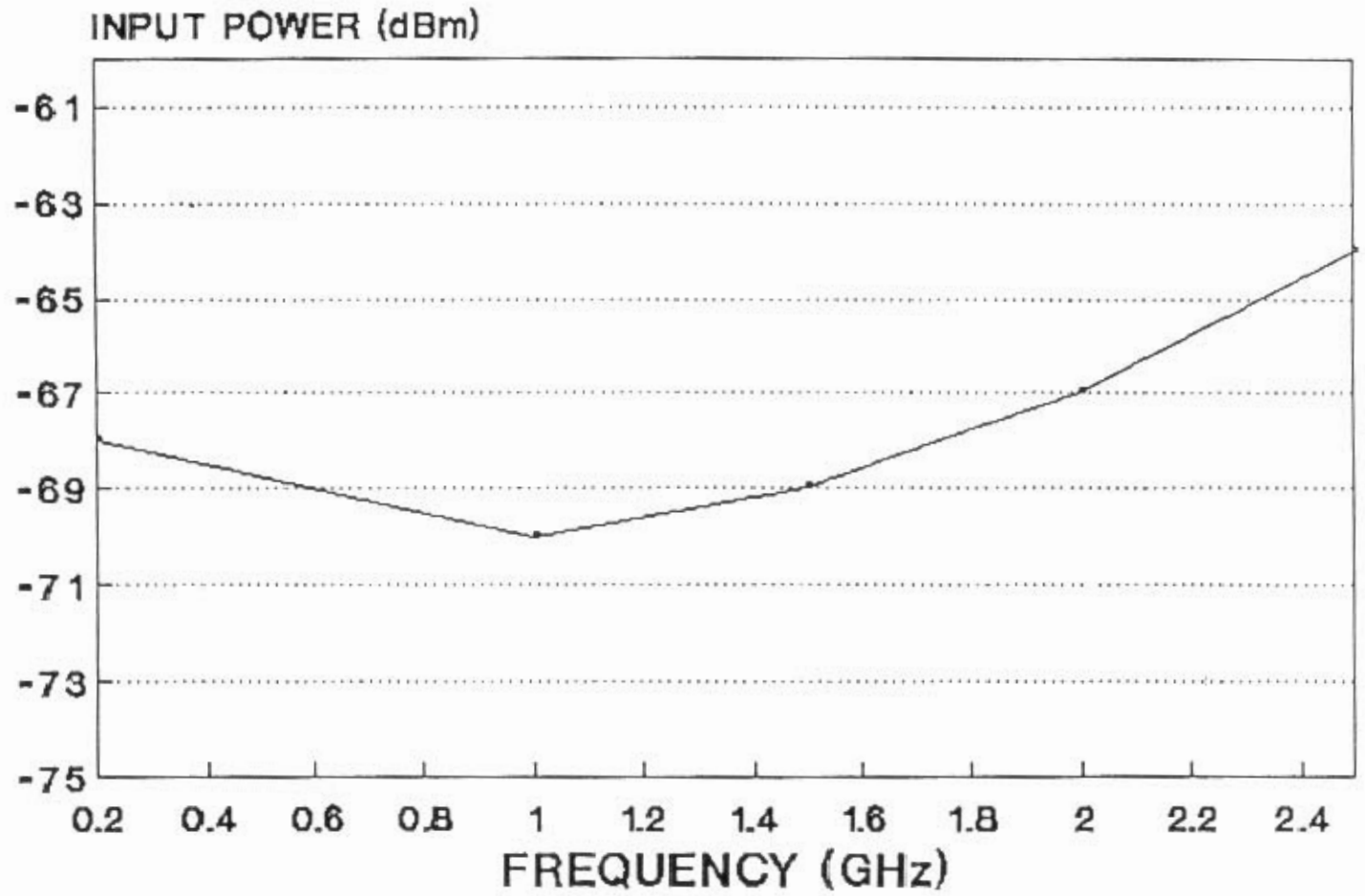
+25 C, 11/11/92, S/N 2012

SLVA-06135
INPUT VSWR



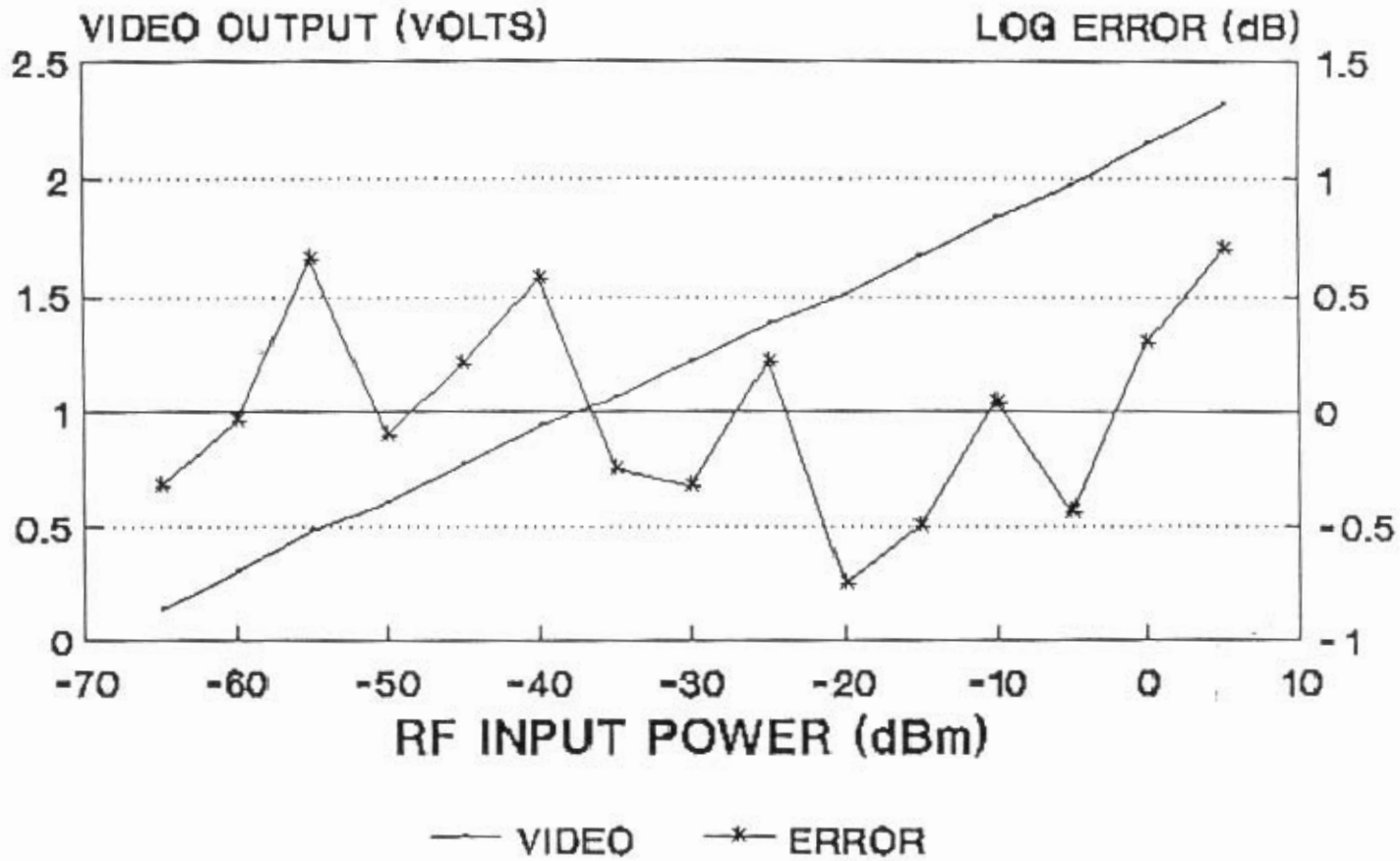
11/11/92

SLVA-06135
TANGENTIAL SENSITIVITY (20MHz BW)



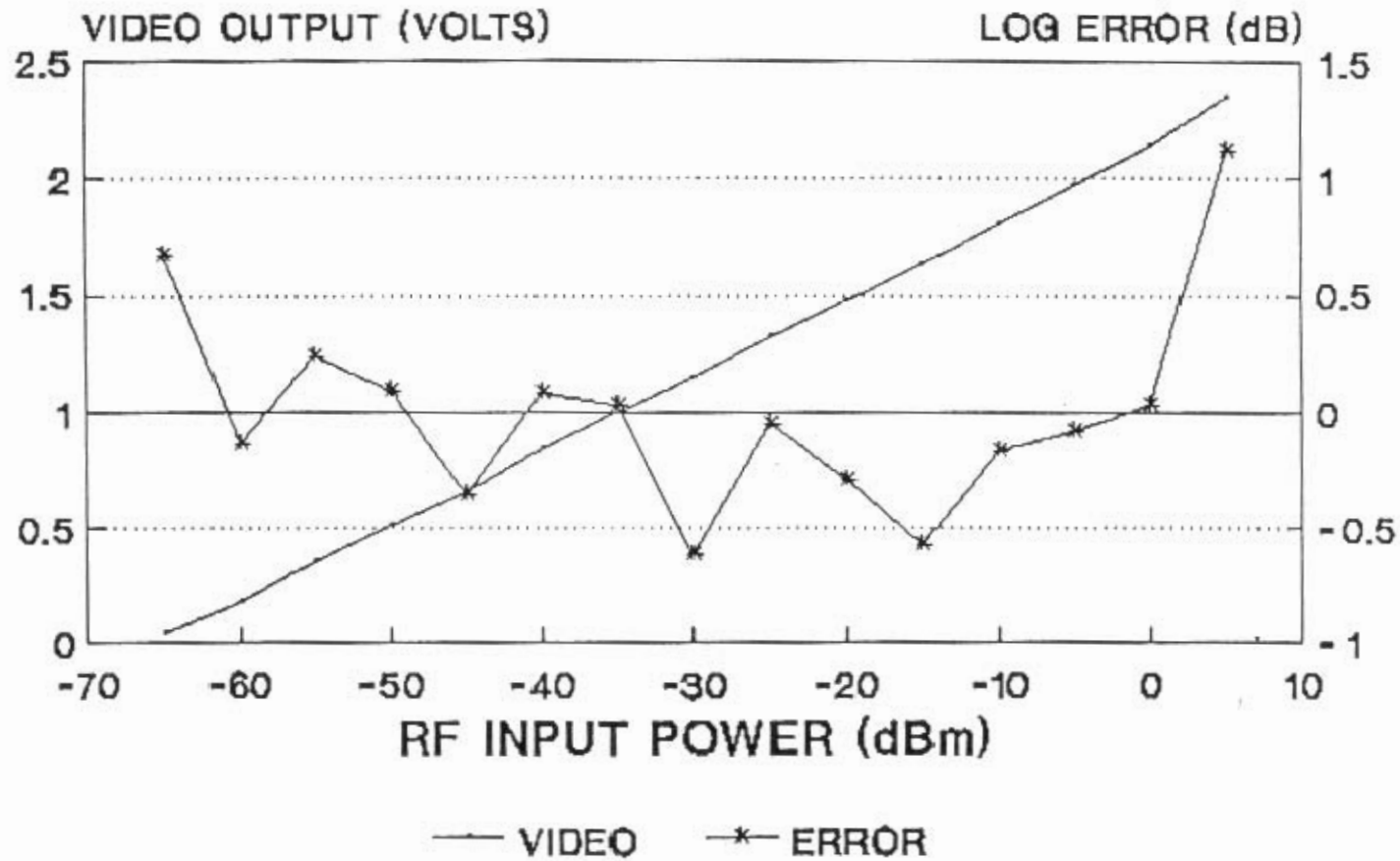
11/11/92

SLVA-06135
LOG TRANSFER & ERROR



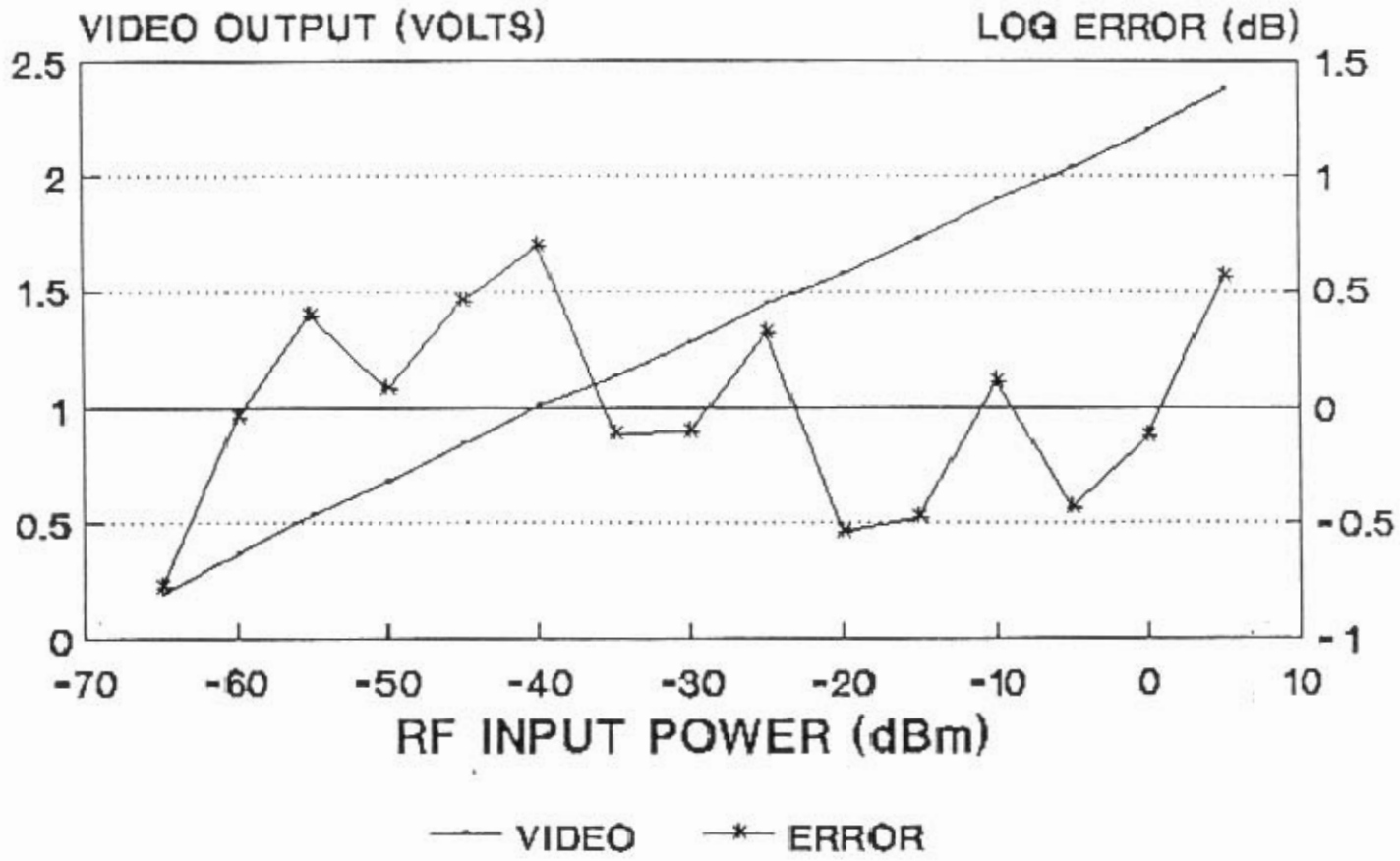
+25 C, 160 MHz, 12/9/92, S/N: 0165

SLVA-06135
LOG TRANSFER & ERROR



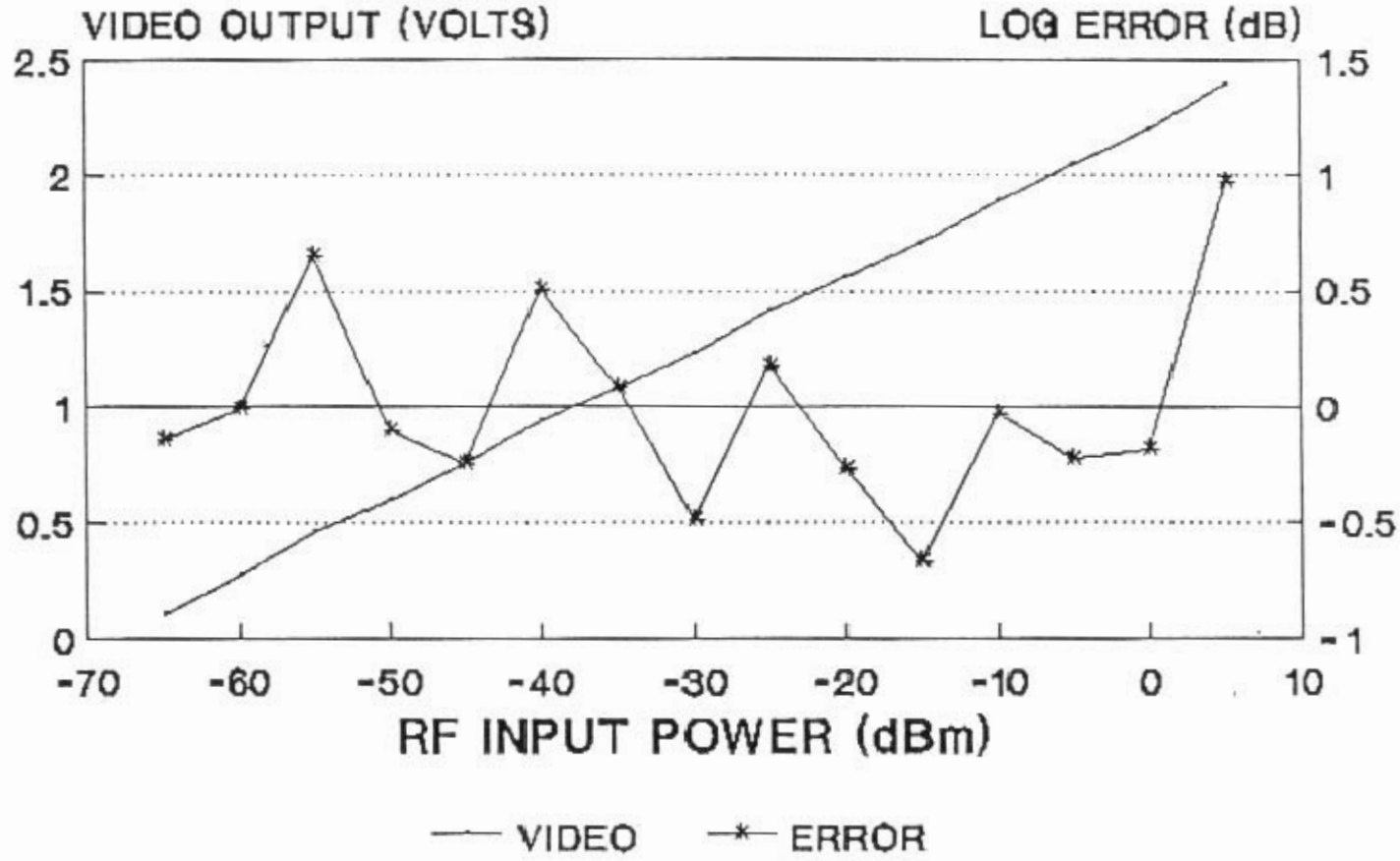
+85 C, 160 MHz, 12/9/92, S/N: 0165

SLVA-06135
LOG TRANSFER & ERROR



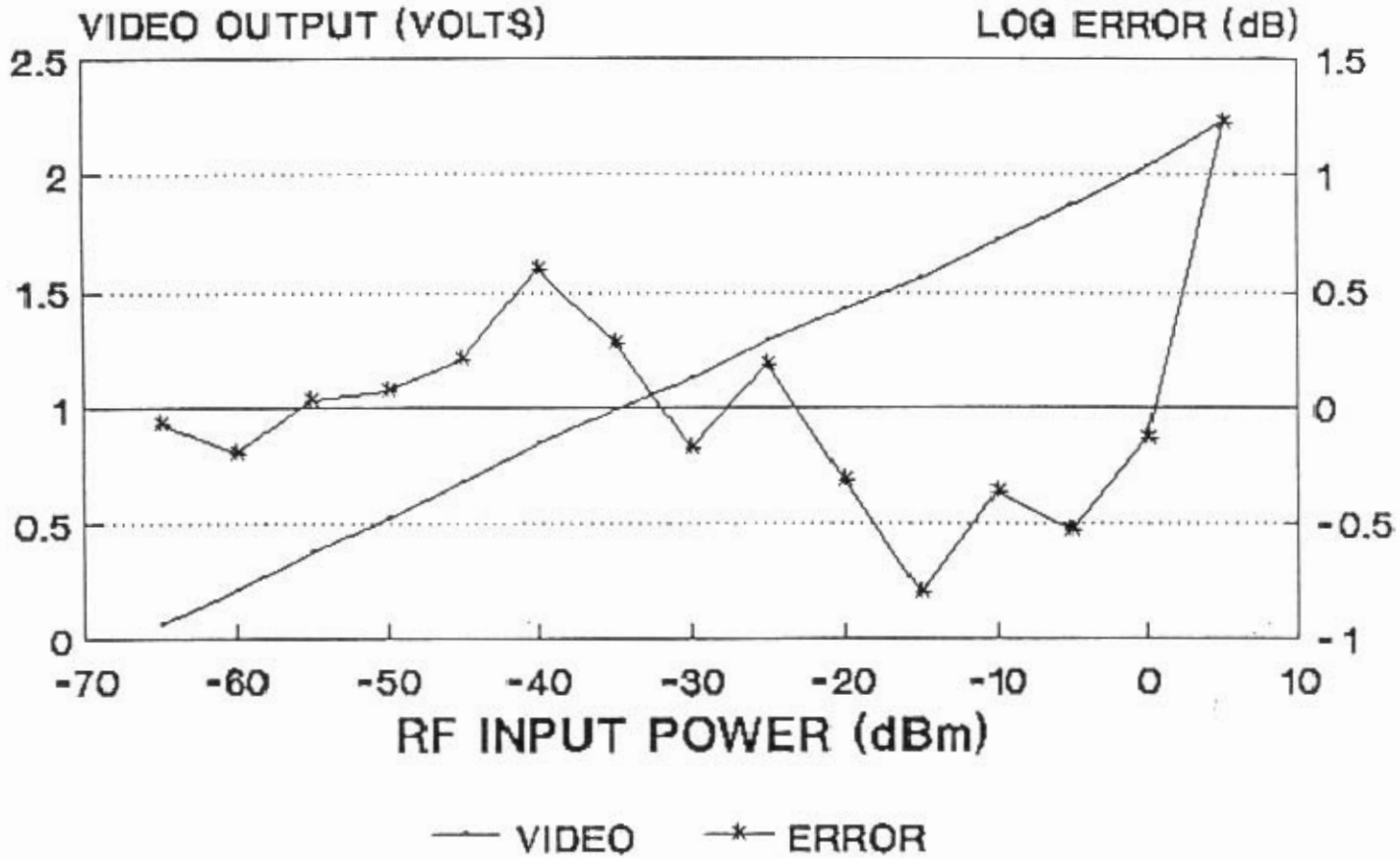
+25 C, 639 MHz, 12/9/92, S/N: 0165

SLVA-06135
LOG TRANSFER & ERROR



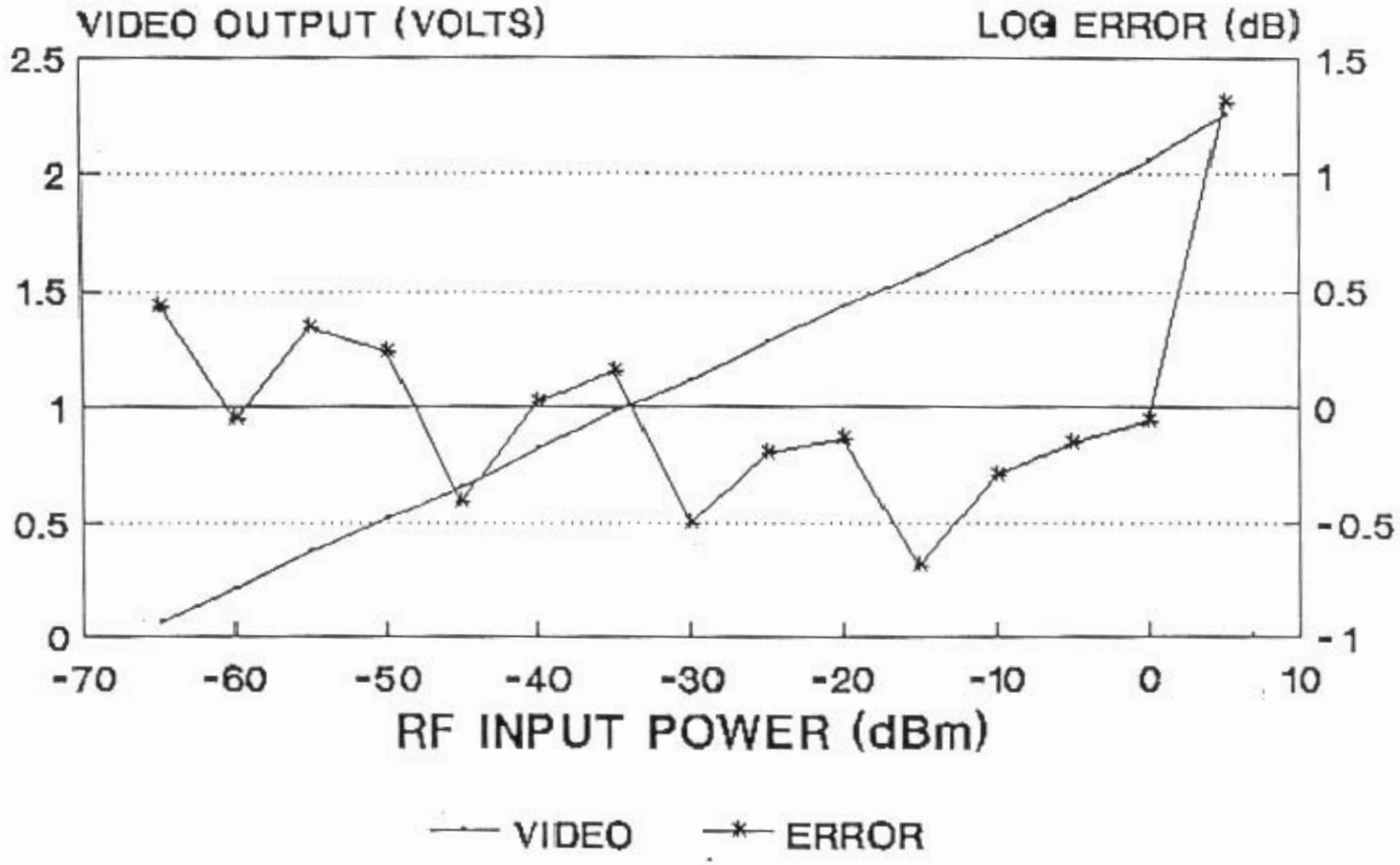
+85 C, 639 MHz, 12/9/92, S/N: 0165

SLVA-06135
LOG TRANSFER & ERROR



+25 C, 1310 Hz, 12/9/92, S/N: 0165

SLVA-06135
LOG TRANSFER & ERROR



+85 C, 1310 MHz, 12/9/92, S/N: 0165

FORM: SDLVA-01/0992 AMC JOB NO: 206152

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER--SDLVA

CUSTOMER: HUGHES AIRCRAFT TESTED BY: B. Baker

MODEL NO: SLVA - 06135 DATE: 9/26/92

SERIAL NO: 0001

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	LOGGING RANGE @975 MHz 30.5 mV/dB SLOPE	-60 to 0 dBm	-66 TO +6 dBm	
2	LOG SLOPE VARIATION OVER FREQUENCY (Fc -40 MHz to Fc +40 MHz) Fc = 679.545 MHz LOG SLOPE = 30.5 mV	±0.45 mV/dB (max)	±0.25 mV/dB	
3	LOG LINEARITY -60 to 0 dBm @ 30.5 mV/dB SLOPE, 975 MHz	±1.2 dB (max)	±0.42dB	
4	TANGENTIAL SENSITIVITY 20 MHz VIDEO BW @ 1270.455 MHz	-67 dBm (min)	-69 dBm	
5	DC OUTPUT VOLTAGE CW RF INPUT = -60 dBm T = 25°C, 975 MHz	225 to 275 mV	Pass	
6	POSITIVE DC CURRENT +5.0V 100 ohm, 8 pf load at 0 dBm	40 ma (max)	36 mA	
7	NEGATIVE DC CURRENT −5.0V 100 ohm, 8 pf load at 0 dBm	165 mA (max)	138 mA	

PRODUCTION MANAGER APPROVAL: Stephen Rutherford DATED: 9-26-92

QA/QC APPROVAL: [illegible] DATED: 9-26-92

FORM: SDLVA-01/0992 AMC JOB NO: 206152

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER--SDLVA

CUSTOMER: HUGHES AIRCRAFT TESTED BY: B. Baker

MODEL NO: SLVA-06135 DATE: 9/26/92

SERIAL NO: 0002

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	LOGGING RANGE @975 MHz 30.5 mV/dB SLOPE	-60 to 0 dBm	-65 TO +7dBm	
2	LOG SLOPE VARIATION OVER FREQUENCY (Fc -40 MHz to Fc +40 MHz) Fc = 679.545 MHz LOG SLOPE = 30.5 mV	±0.45 mV/dB (max)	±0.225 mV/dB	
3	LOG LINEARITY -60 to 0 dBm @ 30.5 mV/dB SLOPE, 975 MHz	±1.2 dB (max)	±0.6dB	
4	TANGENTIAL SENSITIVITY 20 MHz VIDEO BW @ 1270.455 MHz	-67 dBm (min)	-68dBm	
5	DC OUTPUT VOLTAGE CW RF INPUT = -60 dBm T = 25°C, 975 MHz	225 to 275 mV	Pass	
6	POSITIVE DC CURRENT +5.0V 100 ohm, 8 pf load at 0 dBm	40 ma (max)	38mA	
7	NEGATIVE DC CURRENT -5.0V 100 ohm, 8 pf load at 0 dBm	165 mA (max)	143mA	

PRODUCTION MANAGER APPROVAL: DATED: 9-26-92

QA/QC APPROVAL: DATED: 9-26-92

FORM: SDLVA-01/0992 AMC JOB NO: 206152.

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER--SDLVA

CUSTOMER: HUGHES AIRCRAFT TESTED BY: B. Baker

MODEL NO: SLVA -06135 DATE: 9/26/92

SERIAL NO: 0003

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	LOGGING RANGE @975 MHz 30.5 mV/dB SLOPE	-60 to 0 dBm	-64 TO +7dBM	
2	LOG SLOPE VARIATION OVER FREQUENCY (Fc -40 MHz to Fc + 40 MHz) Fc = 679.545 MHz LOG SLOPE = 30.5 mV	±0.45 mV/dB (max)	±0.27 mV/dB	
3	LOG LINEARITY -60 to 0 dBm @ 30.5 mV/dB SLOPE, 975 MHz	±1.2 dB (max)	±03dB	
4	TANGENTIAL SENSITIVITY 20 MHz VIDEO BW @ 1270.455 MHz	-67 dBm (min)	-68.5dBM	
5	DC OUTPUT VOLTAGE CW RF INPUT = -60 dBm T = 25°C, 975 MHz	225 to 275 mV	Pass	
6	POSITIVE DC CURRENT +5.0V 100 ohm, 8 pf load at 0 dBm	40 ma (max)	35.4mA	
7	NEGATIVE DC CURRENT −5.0V 100 ohm, 8 pf load at 0 dBm	165 mA (max)	144mA	

PRODUCTION MANAGER APPROVAL: DATED: 9-26-92

QA/QC APPROVAL: DATED: 9-26-92

FORM: SDLVA-01/0992 AMC JOB NO: 206152

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER--SDLVA

CUSTOMER: HUGHES AIRCRAFT TESTED BY: B. Baker

MODEL NO: SLVA-06135 DATE: 9/26/92

SERIAL NO: 0004

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	LOGGING RANGE @975 MHz 30.5 mV/dB SLOPE	-60 to 0 dBm	-65 TO +7dBm	
2	LOG SLOPE VARIATION OVER FREQUENCY (Fc -40 MHz to Fc +40 MHz) Fc = 679.545 MHz LOG SLOPE = 30.5 mV	±0.45 mV/dB (max)	±0.25 mV/dB	
3	LOG LINEARITY -60 to 0 dBm @ 30.5 mV/dB SLOPE, 975 MHz	±1.2 dB (max)	±0.6dB	
4	TANGENTIAL SENSITIVITY 20 MHz VIDEO BW @ 1270.455 MHz	-67 dBm (min)	-68dBm	
5	DC OUTPUT VOLTAGE CW RF INPUT = -60 dBm T = 25°C, 975 MHz	225 to 275 mV	pass	
6	POSITIVE DC CURRENT +5.0V 100 ohm, 8 pf load at 0 dBm	40 ma (max)	36.8 mA	
7	NEGATIVE DC CURRENT -5.0V 100 ohm, 8 pf load at 0 dBm	165 mA (max)	140 mA	

PRODUCTION MANAGER APPROVAL: [signature] DATED: 9-26-92

QA/QC APPROVAL: [signature] DATED: 9-26-92

FORM: SDLVA-01/0992 AMC JOB NO: 206152

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER--SDLVA

CUSTOMER: HUGHES AIRCRAFT TESTED BY: B. Baha

MODEL NO: SLVA-06135 DATE: 9/26/92

SERIAL NO: 0006

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	LOGGING RANGE @975 MHz 30.5 mV/dB SLOPE	-60 to 0 dBm	-65 TO +7dBm	
2	LOG SLOPE VARIATION OVER FREQUENCY (Fc -40 MHz to Fc +40 MHz) Fc = 679.545 MHz LOG SLOPE = 30.5 mV	±0.45 mV/dB (max)	±0.275 mV/dB	
3	LOG LINEARITY -60 to 0 dBm @ 30.5 mV/dB SLOPE, 975 MHz	±1.2 dB (max)	±0.6dB	
4	TANGENTIAL SENSITIVITY 20 MHz VIDEO BW @ 1270.455 MHz	-67 dBm (min)	-68dBm	
5	DC OUTPUT VOLTAGE CW RF INPUT = -60 dBm T = 25°C, 975 MHz	225 to 275 mV	Base	
6	POSITIVE DC CURRENT +5.0V 100 ohm, 8 pf load at 0 dBm	40 ma (max)	36.5mA	
7	NEGATIVE DC CURRENT -5.0V 100 ohm, 8 pf load at 0 dBm	165 mA (max)	139mA	

PRODUCTION MANAGER APPROVAL: DATED: 9-26-92

QA/QC APPROVAL: DATED: 9-26-92

FORM: SDLVA-01/0992 AMC JOB NO: 206152

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER--SDLVA

CUSTOMER: HUGHES AIRCRAFT TESTED BY: B. Baker

MODEL NO: SLVA-06135 DATE: 9/26/92

SERIAL NO: 0007

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	LOGGING RANGE @975 MHz 30.5 mV/dB SLOPE	-60 to 0 dBm	-66 TO +7dBm	
2	LOG SLOPE VARIATION OVER FREQUENCY (Fc -40 MHz to Fc + 40 MHz) Fc = 679.545 MHz LOG SLOPE = 30.5 mV	±0.45 mV/dB (max)	±0.285 mV/dB	
3	LOG LINEARITY -60 to 0 dBm @ 30.5 mV/dB SLOPE, 975 MHz	±1.2 dB (max)	±0.1dB	
4	TANGENTIAL SENSITIVITY 20 MHz VIDEO BW @ 1270.455 MHz	-67 dBm (min)	-69dBm	
5	DC OUTPUT VOLTAGE CW RF INPUT = -60 dBm T = 25°C, 975 MHz	225 to 275 mV	Pass	
6	POSITIVE DC CURRENT +5.0V 100 ohm, 8 pf load at 0 dBm	40 ma (max)	38mA	
7	NEGATIVE DC CURRENT -5.0V 100 ohm, 8 pf load at 0 dBm	165 mA (max)	-137mA	

PRODUCTION MANAGER APPROVAL: [signature] DATED: 9-26-92

QA/QC APPROVAL: [signature] DATED: 9-26-92

FORM: SDLVA-01/0992 AMC JOB NO: 206152

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER--SDLVA

CUSTOMER: HUGHES AIRCRAFT TESTED BY: B. Baker

MODEL NO: SLVA-06135 DATE: 9/26/92

SERIAL NO: 0008

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	LOGGING RANGE @975 MHz 30.5 mV/dB SLOPE	-60 to 0 dBm	-66 TO +7dBm	
2	LOG SLOPE VARIATION OVER FREQUENCY (Fc -40 MHz to Fc +40 MHz) Fc = 679.545 MHz LOG SLOPE = 30.5 mV	±0.45 mV/dB (max)	±0.275 mV/dB	
3	LOG LINEARITY -60 to 0 dBm @ 30.5 mV/dB SLOPE, 975 MHz	±1.2 dB (max)	±1.0dB	
4	TANGENTIAL SENSITIVITY 20 MHz VIDEO BW @ 1270.455 MHz	-67 dBm (min)	-68dBm	
5	DC OUTPUT VOLTAGE CW RF INPUT = -60 dBm T = 25°C, 975 MHz	225 to 275 mV	Pass	
6	POSITIVE DC CURRENT +5.0V 100 ohm, 8 pf load at 0 dBm	40 ma (max)	39 mA	
7	NEGATIVE DC CURRENT −5.0V 100 ohm, 8 pf load at 0 dBm	165 mA (max)	134mA	

PRODUCTION MANAGER APPROVAL: Stephen Rustin DATED: 9-26-92

QA/QC APPROVAL: DATED: 9-26-92

FORM: SDLVA-01/0992

AMC JOB NO: 206152

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER--SDLVA

CUSTOMER: HUGHES AIRCRAFT

TESTED BY: B. Baker

MODEL NO: SLVA-06135

DATE: 9/26/92

SERIAL NO: 0010

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	LOGGING RANGE @975 MHz 30.5 mV/dB SLOPE	-60 to 0 dBm	-66 TO +7dBm	
2	LOG SLOPE VARIATION OVER FREQUENCY (Fc -40 MHz to Fc +40 MHz) Fc = 679.545 MHz LOG SLOPE = 30.5 mV	±0.45 mV/dB (max)	±0.285 mV/dB	
3	LOG LINEARITY -60 to 0 dBm @ 30.5 mV/dB SLOPE, 975 MHz	±1.2 dB (max)	±0.75dB	
4	TANGENTIAL SENSITIVITY 20 MHz VIDEO BW @ 1270.455 MHz	-67 dBm (min)	-68dBm	
5	DC OUTPUT VOLTAGE CW RF INPUT = -60 dBm T = 25°C, 975 MHz	225 to 275 mV	Pass	
6	POSITIVE DC CURRENT +5.0V 100 ohm, 8 pf load at 0 dBm	40 ma (max)	36mA	
7	NEGATIVE DC CURRENT -5.0V 100 ohm, 8 pf load at 0 dBm	165 mA (max)	139mA	

PRODUCTION MANAGER APPROVAL: Stephi Rutter DATED: 9-26-92

QA/QC APPROVAL: DATED: 9-26-92

FORM: SDLVA-01/0992 AMC JOB NO: 206152

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER--SDLVA

CUSTOMER: HUGHES AIRCRAFT TESTED BY: B. Baker

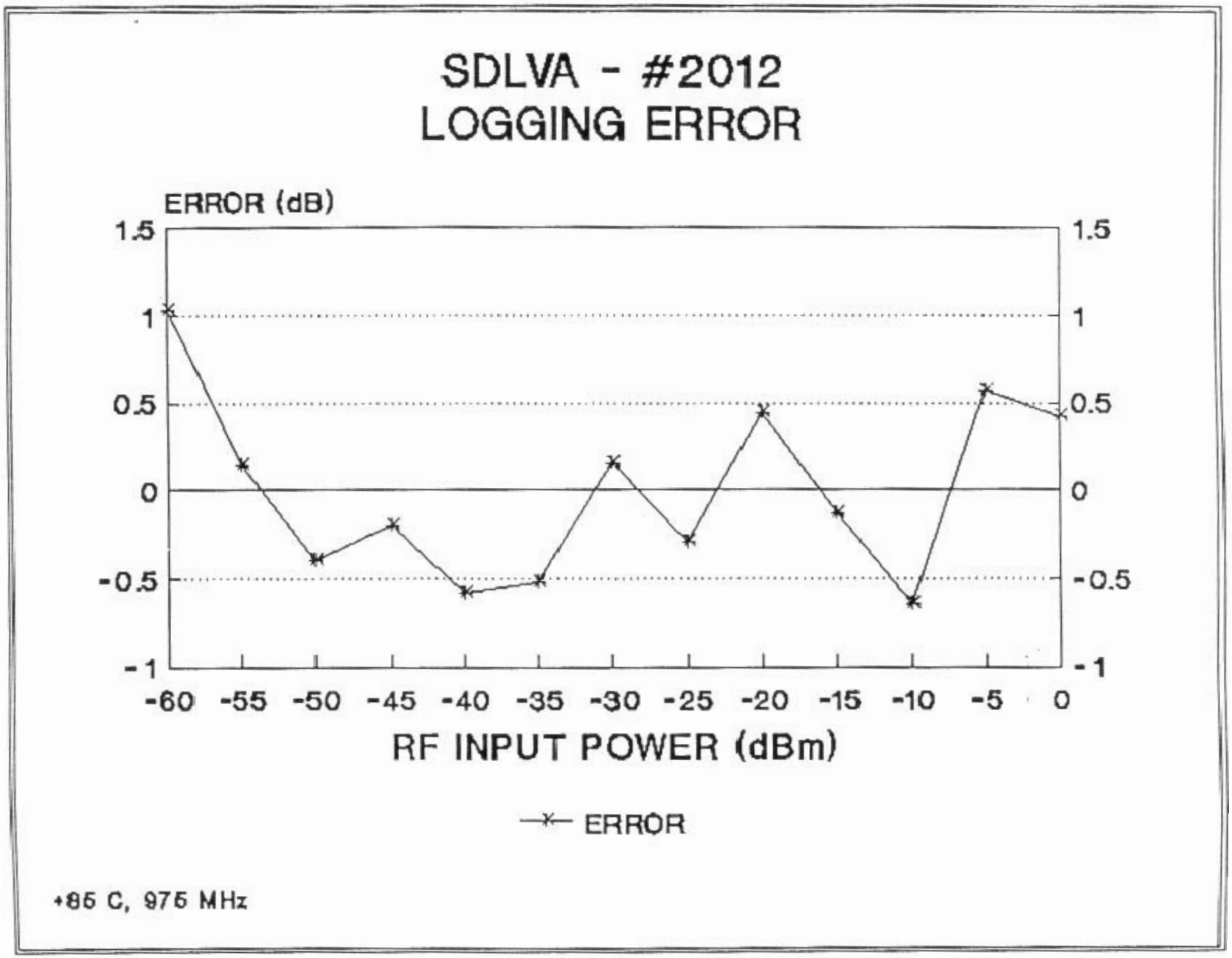
MODEL NO: SLVA-06135 DATE: 9/26/92

SERIAL NO: 0011

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	LOGGING RANGE @975 MHz 30.5 mV/dB SLOPE	-60 to 0 dBm	-65 TO +7dBm	
2	LOG SLOPE VARIATION OVER FREQUENCY (Fc -40 MHz to Fc +40 MHz) Fc = 679.545 MHz LOG SLOPE = 30.5 mV	±0.45 mV/dB (max)	±0.25 mV/dB	
3	LOG LINEARITY -60 to 0 dBm @ 30.5 mV/dB SLOPE, 975 MHz	±1.2 dB (max)	±0.7dB	
4	TANGENTIAL SENSITIVITY 20 MHz VIDEO BW @ 1270.455 MHz	-67 dBm (min)	-68dBm	
5	DC OUTPUT VOLTAGE CW RF INPUT = -60 dBm T = 25°C, 975 MHz	225 to 275 mV	Pass	
6	POSITIVE DC CURRENT +5.0V 100 ohm, 8 pf load at 0 dBm	40 ma (max)	39mA	
7	NEGATIVE DC CURRENT −5.0V 100 ohm, 8 pf load at 0 dBm	165 mA (max)	137mA	

PRODUCTION MANAGER APPROVAL: [signature] DATED: 9-26-92

QA/QC APPROVAL: [signature] DATED: 9-26-92


SDLVA - #2012
LOGGING ERROR
ERROR (dB)
1.5
1
0.5
0
-0.5
-1
-60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0
RF INPUT POWER (dBm)
ERROR
+85 C, 975 MHz

FORM: SDLVA-01/0992 AMC JOB NO: 206152

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER--SDLVA

CUSTOMER: HUGHES AIRCRAFT TESTED BY: B. Baker

MODEL NO: SLVA-06135 DATE: 9/26/92

SERIAL NO: 0005

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	LOGGING RANGE @975 MHz 30.5 mV/dB SLOPE	-60 to 0 dBm	-66 TO +7dBm	
2	LOG SLOPE VARIATION OVER FREQUENCY (Fc -40 MHz to Fc +40 MHz) Fc = 679.545 MHz LOG SLOPE = 30.5 mV	±0.45 mV/dB (max)	±0.285 mV/dB	
3	LOG LINEARITY -60 to 0 dBm @ 30.5 mV/dB SLOPE, 975 MHz	±1.2 dB (max)	±0.6dB	
4	TANGENTIAL SENSITIVITY 20 MHz VIDEO BW @ 1270.455 MHz	-67 dBm (min)	-68dBm	
5	DC OUTPUT VOLTAGE CW RF INPUT = -60 dBm T = 25°C, 975 MHz	225 to 275 mV	Pass	
6	POSITIVE DC CURRENT +5.0V 100 ohm, 8 pf load at 0 dBm	40 ma (max)	38mA	
7	NEGATIVE DC CURRENT -5.0V 100 ohm, 8 pf load at 0 dBm	165 mA (max)	140mA	

PRODUCTION MANAGER APPROVAL: DATED: 9-26-92

QA/QC APPROVAL: DATED: 9-26-92