



**AMERICAN MICROWAVE  
CORPORATION**

**TEST DATA**

**ON**

**500 MHz TO 18 GHz  
(10 MHz TO 18 GHz OPTIONAL)**

**AND**

**60 MHz TO 2 GHz**

**HIGH ISOLATION**

**LOW CURRENT CONSUMPTION**

**LOW INSERTION LOSS**

**AMPLITUDE ( $\pm 0.5$  dB) AND PHASED ( $\pm 5^\circ$ ) MATCHED**

**NON-REFLECTIVE/ABSORPTIVE**

**SP3T**

**RADIAL SOLID STATE SWITCH  
(SURFACE MOUNTABLE)**

**AMC MODEL No:  
SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
(Serial Number: 3MS908274)**

**REPORTED AND PREPARED  
BY  
RENE AFABLE**

**AUGUST 27, 1999**

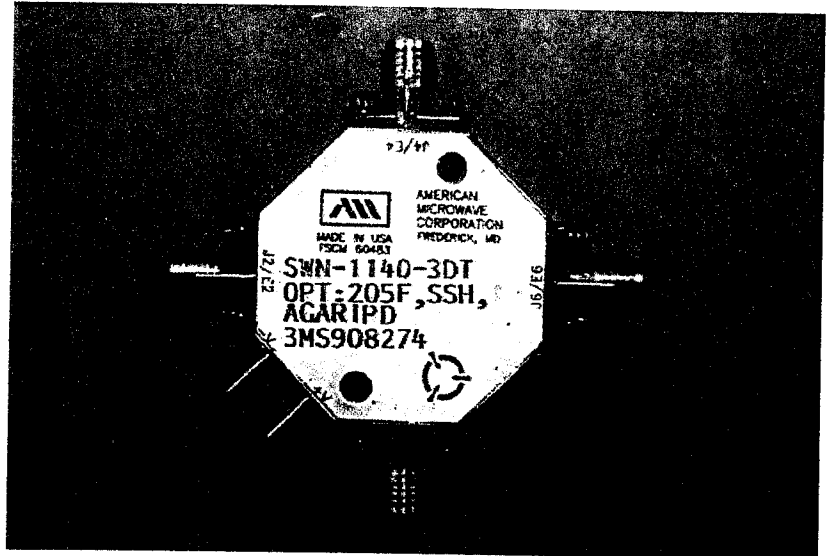
**WEB PAGE: [HTTP://WWW.AMWAVE.COM](http://www.amwave.com)**

**E-MAIL ADDRESS: [AMCPMI@AOL.COM](mailto:AMCPMI@AOL.COM)**

**7311 G GROVE ROAD, FREDERICK, MARYLAND 21704 • Tel. (301) 662-4700 • Fax (301) 662-4938**

**SP3T NON-REFLECTIVE/ABSORPTIVE  
SOLID STATE PIN DIODE SWITCH**

**AMERICAN MICROWAVE  
CORPORATION**



**KEY FEATURES**

- 0.5 GHz TO 18 GHz  
(10MHz to 18GHz optional)
- AMPLITUDE AND PHASED  
MATCHED
- LOW INSERTION LOSS
- HIGH SPEED
- TTL LOGIC COMPATIBLE

**AMC MODEL No: SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH**

**SPECIFICATIONS: (REFLECTIVE)**

• FREQUENCY RANGE	:	0.5 GHz to 18 GHz (10MHz to 18GHz Optional)
• INSERTION LOSS	:	3.5 dB MAX.
	:	1.00 dB TYP. @ 0.5 GHz
	:	1.00 dB TYP. @ 2.0 GHz
	:	1.75 dB TYP. @ 6.0 GHz
	:	2.00 dB TYP. @ 12.0 GHz
	:	3.20 dB TYP. @ 18.0 GHz
• ISOLATION	:	≥ 90 dB MIN.
	:	≥ 85 dB TYP. @ 0.5 GHz
	:	≥ 90 dB TYP. @ 2.0 GHz
	:	≥ 100 dB TYP. @ 6.0 GHz
	:	≥ 90 dB TYP. @ 12.0 GHz
	:	≥ 90 dB TYP. @ 18.0 GHz
• VSWR	:	2.0:1
• SWITCHING SPEED	:	"RISE" 15nS MAX., 10nS TYP.
	:	"FALL" 15nS MAX., 10nS TYP.
	:	"ON" 100nS MAX., 75nS TYP.
	:	"OFF" 100nS MAX., 75nS TYP.
• CONTROL	:	Independent TTL Compatible (2 Bit Decoder available)
• VIDEO TRANSIENTS	:	≤2.1 V Peak to Peak, 300 MHZ Bandwidth
	:	≤620 mV Peak to Peak, 20 MHZ Bandwidth
• RF INPUT POWER	:	+20dBm Operating, 1 Watt Survival (Other power Levels available)
• DC POWER SUPPLY	:	+5vdc @ +55mA MAX.
(Other supply voltages available)	:	- 5vdc @ - 50mA MAX.
• SIZE	:	1.25" X 1.25" X 0.4"
• WEIGHT	:	≤ 2.0 oz. TYP.

**AUGUST 27, 1999**

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## SUMMARY TEST DATA

MODEL NUMBER

: SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH

SERIAL NUMBER

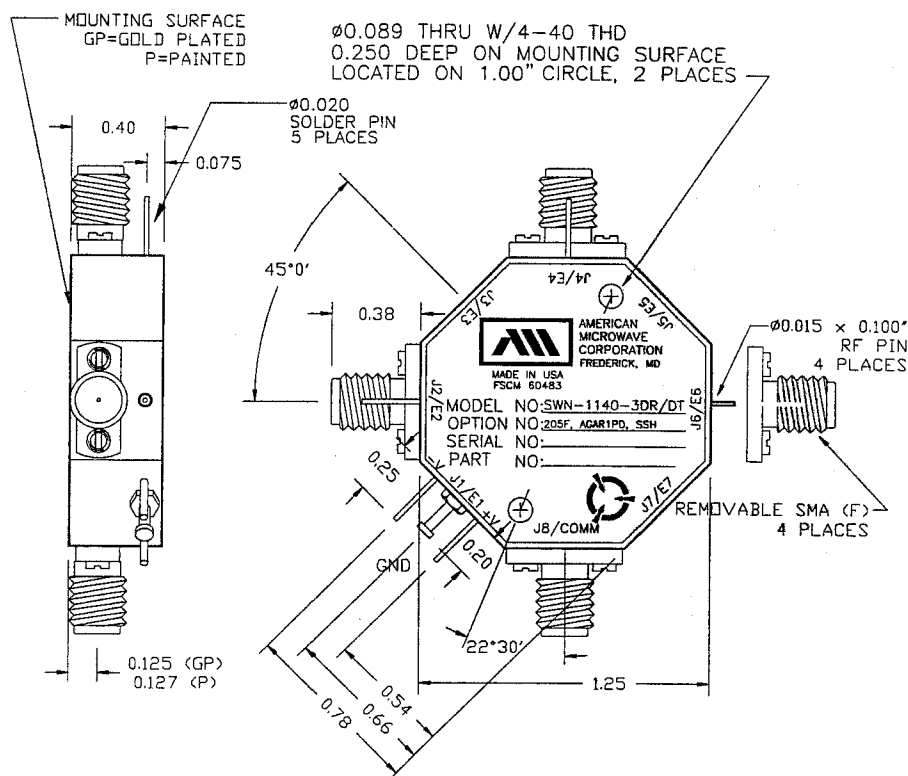
: 3MS908274

ENGINEER

: RENE AFABLE

VOLTAGE & CURRENT DRAW

: +5vdc: @+51.2mA; -5vdc: @ -48.5mA



ALL DIMENSIONS ARE IN INCHES

TOLERANCES:

X.XX	±0.020
X.XXX	±0.010

### ENVIRONMENTAL RATINGS:

- TEMPERATURE:..... -55°C TO +85°C (OPERATING)  
-65°C TO +125°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

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION.

AUGUST 27, 1999

**DESCRIPTION:**  
 AMC MODEL SWN-1140-3DR/DI OPTIONS AGAR1PD, SSH IS A SINGLE POLE THREE THROW, REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH LOW CURRENT CONSUMPTION, HIGH ISOLATION, LOW LOSS, HIGH SPEED AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

**SPECIFICATIONS:**

- FREQUENCY: 0.5 GHz TO 18 GHz
- INSERTION LOSS: REFLECTIVE: 2.75db  
 ABSORPTIVE: 3.5db
- ISOLATION: 0.5 GHz TO 2 GHz: 90db  
 2 GHz TO 12 GHz: 100db  
 12 GHz TO 18 GHz: 90db
- VSWR: REFLECTIVE IN/OUT: 2.0:1  
 ABSORPTIVE IN/OUT: 2.0:1  
 ABSORPTIVE OUT/OFF: 2.0:1
- SPEED: RISE: 10ns TYPICAL, 15ns MAX.  
 FALL: 10ns TYPICAL, 15ns MAX.  
 DELAY ON: 75ns TYPICAL, 100ns MAX.  
 DELAY OFF: 75ns TYPICAL, 100ns MAX.
- POWER INPUT: (CW)+20dBm (STANDARD), +10 dBm (HIGH SPEED)
- SURVIVAL POWER: 1 WATT CW, 10 WATTS PEAK 1 usec
- CONTROL: TTL LOGIC "0"-ON "1"-OFF
- POWER SUPPLY: +5V @ 55 mA MAX.  
 -5V @ 50mA MAX.(ABSORPTIVE/NON-REFLECTIVE)
- SIZE: 1.25" (L) x 1.25" (W) x 0.40" (H)
- WEIGHT: 2.0 oz.

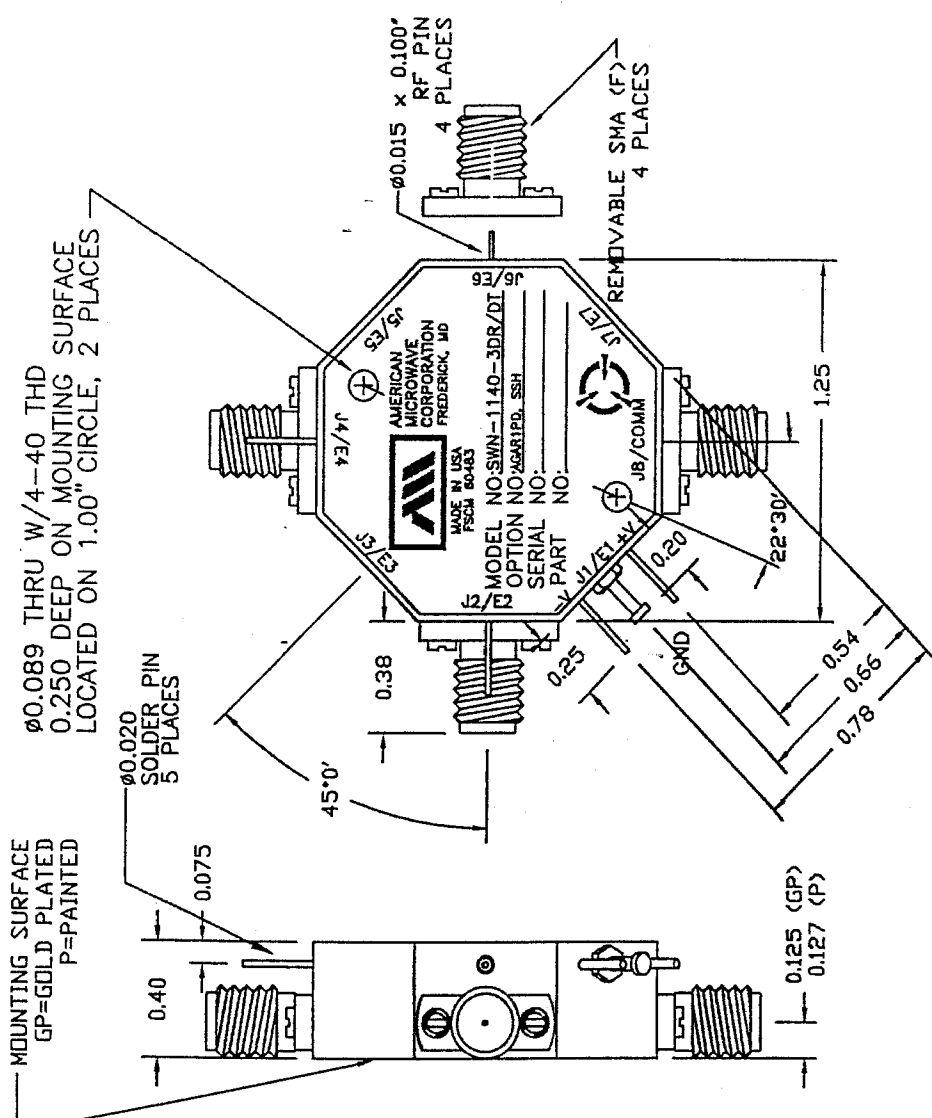
**OPTIONS:**

- INDEPENDENT CONTROL WITH SOLDER PIN STANDARD**
- DEC-SR 2 BIT DECODER WITH SOLDER PIN
  - 10M18 10 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 10 GHz AND 0.5db AT 18 GHz)
  - 100M18 100 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 0.5db AT 18 GHz)
  - 118 1 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
  - 218 2 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
  - 412 4 GHz TO 12.4 GHz (NO CHANGE IN INSERTION LOSS)
  - 618 6 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
  - 1218 12 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
  - 100M20 100 MHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 1.0db AT 20 GHz)
  - 220 2 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
  - 1020 10 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
  - B01 -12V POWER SUPPLIES
  - B02 REVERSE LOGIC "1"-ON "0"-OFF
  - B03 DRIVERLESS, CURRENT CONTROLLED
  - B04 HIGH SPEED, TURNON/TURNOFF 20 nsec MAXIMUM WHEN APPLICABLE OR OPTION HS
  - B05 HIGH POWER - SPECIFY CW POWER, PEAK POWER, PULSE WIDTH, DUTY CYCLE, RF FREQUENCY AND BANDWIDTH
  - B06 CUSTOM DESIGNED PRODUCT- SPECIFY INITIALS OF CUSTOMER
  - B07 LOW VIDEO TRANSIENTS - SPECIFY VIDEO BANDWIDTH
  - B08 LOW INSERTION LOSS VERSION
  - B09 HIGHER ISOLATION VERSION
  - B10 0.70" THICK VERSION
  - B11 0.88" THICK VERSION

**ENVIRONMENTAL RATINGS:**

- TEMPERATURE: -55°C TO +85°C (OPERATING)  
 -65°C TO +125°C (STORAGE)
- HUMIDITY: MIL-STD-202F, METHOD 1038 COND. B
- SHOCK: MIL-STD-202F, METHOD 2138 COND. B
- VIBRATION: MIL-STD-202F, METHOD 2040 COND. B
- ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107D COND. A

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION



NOTE:  
 DR=WITH DRIVER, REFLECTIVE  
 DT=WITH DRIVER, NON-REFLECTIVE/ABSORPTIVE

CONTRACT NO.		AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND	
APPROVALS	DATE	TITLE	
DESIGN: WSP, RPL	8/27/90	OUTLINE DRAWING	
CHECKED: WJP	8/31/90	SWN-1140-3DR/DI OPT. AGAR1PD, SSH	
ISSUED: PA	8/31/90	REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE	
SIZE: A	FROM NO. 60483	RADIAL SOLID STATE SWITCH	
SCALE: N/S	DWG NO. 100-4164-3	REV. -	
SHEET 1		OF 2	

ZONE	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL RELEASE	8/27/99	

**DESCRIPTION:**  
 AMC MODEL SWN-1140-3DR/DT-DEC-SP OPTIONS AGAR1PD, SSH IS A SINGLE POLE THREE THROW, REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH LOW CURRENT CONSUMPTION, HIGH ISOLATION, LOW LOSS, HIGH SPEED AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

**SPECIFICATIONS:**

- FREQUENCY: 0.5 GHz TO 18 GHz
- INSERTION LOSS: REFLECTIVE: 2.75db  
ABSORPTIVE: 3.5db
- ISOLATION: 0.5 GHz TO 2 GHz: 90db  
2 GHz TO 12 GHz: 100db  
12 GHz TO 18 GHz: 90db
- VSWR: REFLECTIVE IN/OUT: 2.0:1  
ABSORPTIVE IN/OUT: 2.0:1  
ABSORPTIVE OUT/OFF: 2.0:1
- SPEED: RISE: 10ns TYPICAL, 15ns MAX.  
FALL: 10ns TYPICAL, 15ns MAX.  
DELAY ON: 75ns TYPICAL, 100ns MAX.  
DELAY OFF: 75ns TYPICAL, 100ns MAX.
- POWER INPUT: (CW)+20dbm (STANDARD), +10 dbm (HIGH SPEED)
- SURVIVAL POWER: 1 WATT CW, 10 WATTS PEAK 1 usec
- CONTROL: TTL LOGIC "0"=ON "1"=OFF
- POWER SUPPLY: +5V @ 55 mA MAX.  
-5V @ 50mA MAX.(REFLECTIVE)  
50mA MAX.(ABSORPTIVE/NON-REFLECTIVE)
- SIZE: 1.25" (L) x 1.25" (W) x 0.40" (H)
- WEIGHT: 2.0 oz.

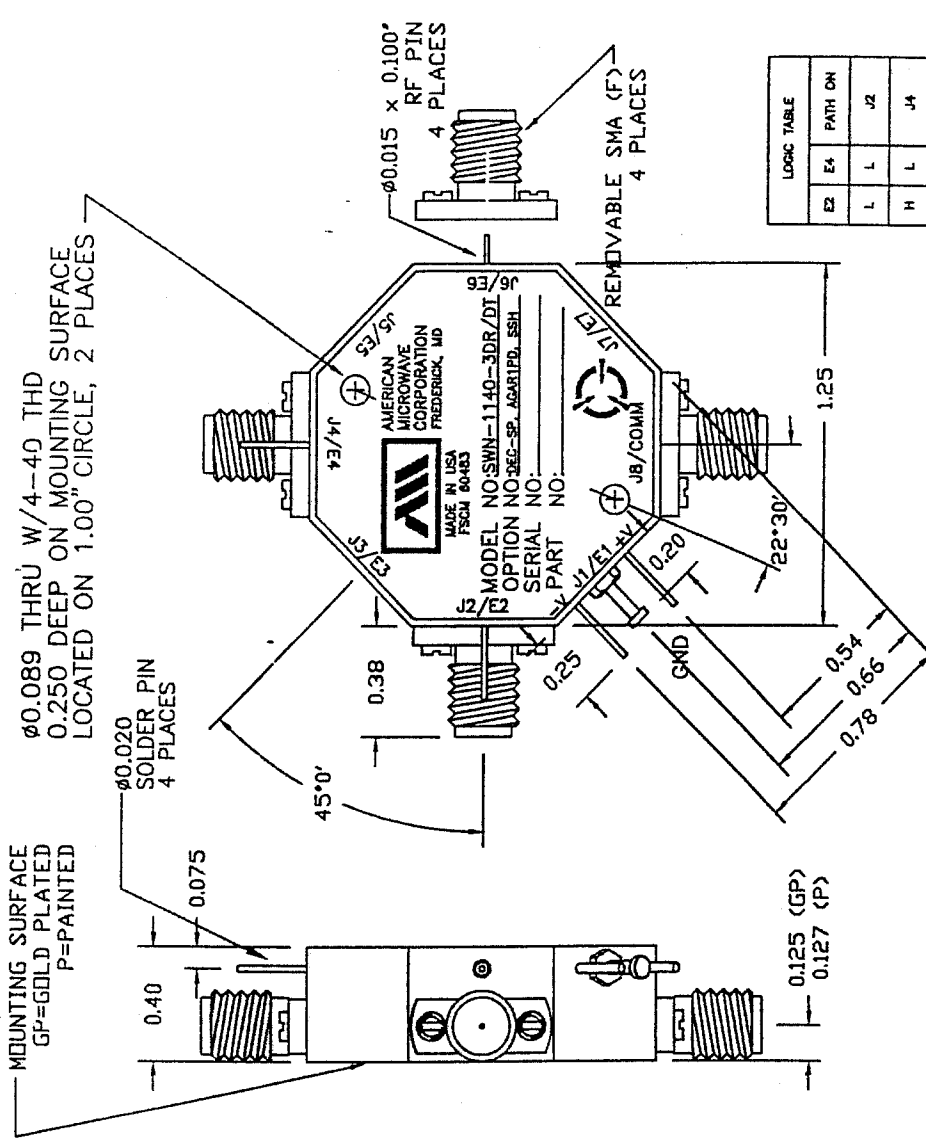
**OPTIONS:**

- INDEPENDENT CONTROL WITH SOLDER PIN STANDARD
- DEC-SP 2 BIT DECODER WITH SOLDER PIN
- 10M18 10 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 10 MHz AND 0.5db AT 18 GHz)
- 100M18 100 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 0.5db AT 18 GHz)
- 118 1 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
- 218 2 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
- 412 4 GHz TO 12.4 GHz (NO CHANGE IN INSERTION LOSS)
- 618 6 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
- 1218 12 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
- 100M20 100 MHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 1.0db AT 20 GHz)
- 220 2 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
- 1020 10 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
- B01 -12V POWER SUPPLIES
- B02 REVERSE LOGIC "1"=ON "0"=OFF
- B03 DRIVERLESS, CURRENT CONTROLLED
- B04 HIGH SPEED, TURNON/TURNOFF 20 nsec MAXIMUM WHEN APPLICABLE OR OPTION H5
- B05 HIGH POWER - SPECIFY CW POWER, PEAK POWER, PULSE WIDTH, DUTY CYCLE, RF FREQUENCY AND BANDWIDTH
- B06 CUSTOM DESIGNED PRODUCT - SPECIFY INITIALS OF CUSTOMER
- B07 LOW VIDEO TRANSIENTS - SPECIFY VIDEO BANDWIDTH
- B08 LOW INSERTION LOSS VERSION
- B09 HIGHER ISOLATION VERSION
- B10 0.70" THICK VERSION
- B12 0.88" THICK VERSION

**ENVIRONMENTAL RATINGS:**

- TEMPERATURE: -55°C TO +85°C (OPERATING)  
-65°C TO +125°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

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION



NOTE:  
 DR=WITH DRIVER, REFLECTIVE  
 DT=WITH DRIVER, NON-REFLECTIVE/ABSORPTIVE

LOGIC TABLE

E2	E4	PATH ON
L	L	J2
H	L	J4
L	H	J6

CONTRACT NO.		APPROVALS		DATE	TITLE
DRAWN: WJP, RBL		CHECKED: WJP		8/27/99	OUTLINE DRAWING
SERIAL: PA		DATE: 8/27/99			SWN-1140-3DR/DT-DEC-SP OPT. AGAR1PD, SSH REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE RADIAL SOLID STATE SWITCH
SIZE	FREQ. NO.	DRWG. NO.	REV.		
A	60483	100-4164-4	-		
SCALE: N/S		SHEET: 1 of 2		AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND	



10-3DR/DT-DEC-SP IS A SINGLE POLE THREE THROW, REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE SWITCH MODULE WITH LOW INSERTION LOSS, HIGH SPEED AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR BROAD BAND OPERATIONS.

**SPECIFICATIONS:**

- FREQUENCY: 0.5 GHz TO 18 GHz
- INSERTION LOSS: REFLECTIVE: 2.75db  
 ABSORPTIVE: 3.75db
- ISOLATION: 0.5 GHz TO 2 GHz: 80db  
 2 GHz TO 18 GHz: 70db
- VSWR: REFLECTIVE IN/OUT: 2.0:1  
 ABSORPTIVE IN/OUT: 2.0:1  
 ABSORPTIVE OUT/OFF: 2.0:1
- SPEED: RISE: 10ns TYPICAL, 15ns MAX.  
 FALL: 10ns TYPICAL, 15ns MAX.  
 DELAY ON: 75ns TYPICAL, 100ns MAX.  
 DELAY OFF: 75ns TYPICAL, 100ns MAX.
- POWER INPUT: (CW)+20dbm (STANDARD), +10 dbm (HIGH SPEED)
- SURVIVAL POWER: 1 WATT CW, 10 WATTS PEAK 1 usec
- CONTROL: TTL LOGIC "0"=ON "1"=OFF
- POWER SUPPLY: +5V @ 150 mA MAX.  
 -5V @ 75mA MAX.(REFLECTIVE)  
 100mA MAX.(ABSORPTIVE/NON-REFLECTIVE)
- SIZE: 1.25" (L) x 1.25" (W) x 0.40" (H)
- WEIGHT: 2.0 oz.

**OPTIONS:**

- INDEPENDENT CONTROL WITH SOLDER PIN STANDARD
- DEC-SP 2-BIT DECODER WITH SOLDER PIN
- 10M1B 10 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 10 MHz AND 0.5db AT 18 GHz)
- 100M1B 100 MHz TO 18 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 0.5db AT 18 GHz)
- 11B 1 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
- 21B 2 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
- 41B 4 GHz TO 12.4 GHz (NO CHANGE IN INSERTION LOSS)
- 61B 6 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
- 121B 12 GHz TO 18 GHz (NO CHANGE IN INSERTION LOSS)
- 100M20 100 MHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.5db AT 100 MHz AND 1.0db AT 20 GHz)
- 220 2 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
- 1020 10 GHz TO 20 GHz (INSERTION LOSS INCREASES BY 1.0db AT 20 GHz)
- B01 -12V POWER SUPPLIES
- B02 -15V POWER SUPPLIES
- B03 REVERSE LOGIC "1"=ON "0"=OFF
- B04 DRIVERLESS, CURRENT CONTROLLED
- B05 HIGH SPEED, TURNON/TURNOFF 20 nsec MAXIMUM WHEN APPLICABLE OR OPTION HS
- B06 HIGH POWER - SPECIFY CW POWER, PULSE WIDTH, DUTY CYCLE, RF FREQUENCY AND BANDWIDTH
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- B08 LOW VIDEO TRANSIENTS - SPECIFY VIDEO BANDWIDTH
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- B10 HIGHER ISOLATION VERSION
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**ENVIRONMENTAL RATINGS:**

- TEMPERATURE: -55°C TO +85°C (OPERATING)  
 -65°C TO +125°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

MOUNTING SURFACE  
 GP=GOLD PLATED  
 P=PAINTED



LOGIC TABLE	
E2	E4
L	L
H	L
L	H
L	J2
L	J4
L	J6

NOTE:  
 DR=WITH DRIVER, REFLECTIVE  
 DT=WITH DRIVER, NON-REFLECTIVE/ABSORPTIVE

CONTRACT NO.		AMERICAN MICROWAVE CORPORATION FREDERICK, MARYLAND	
DRAWN WY99, JSD	DATE 8/27/99	TITLE OUTLINE DRAWING	
CHECKED WJP	DATE 8/27/99	SWN-1140-3DR/DT-DEC-SP REFLECTIVE OR NON-REFLECTIVE/ABSORPTIVE RADIAL SOLID STATE SWITCH	
ISSUED JA	DATE 8/27/99	SIZE FROM NO. A 60483	DWG NO. 100-4164-2
SCALE N/S		SHEET 1 of 2	

ALL DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 X.XX ±0.020  
 X.XXX ±0.010

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION



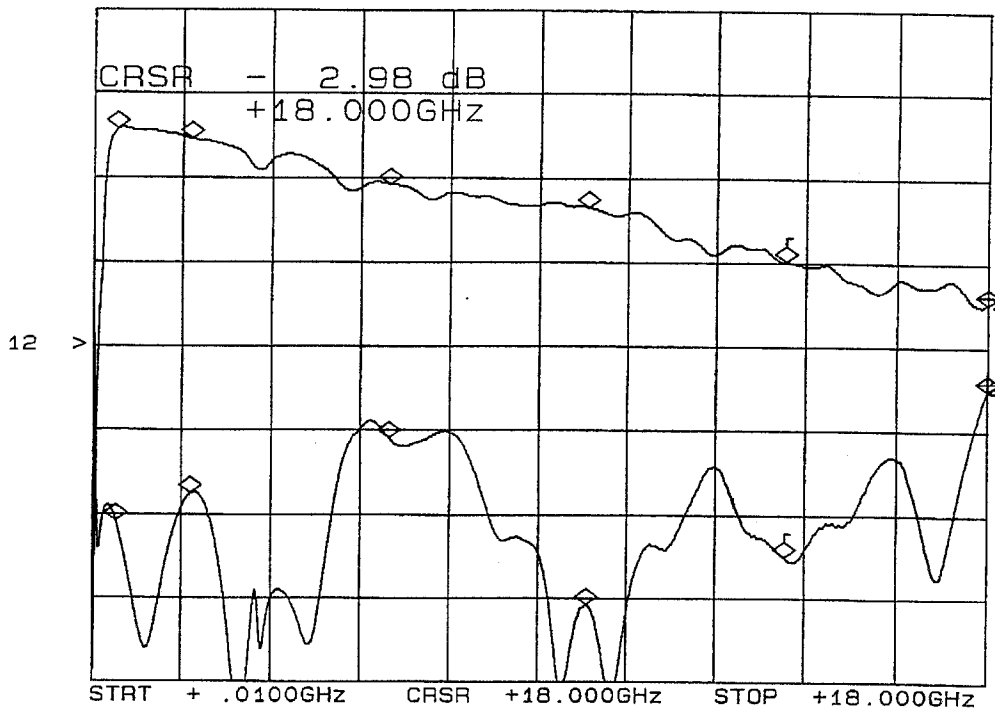
### SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

#### INSERTION LOSS & RETURN LOSS\*

J8-J2

CH1: A -M S - 2.98 dB      CH2: B -M REF - 12.05 dB  
 1.0 dB/ REF - 3.50 dB      5.0 dB/ REF - 9.54 dB



\*J8: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	0.89 dB	19.7 dB
2.0 GHz	1.04 dB	18.2 dB
6.0 GHz	1.60 dB	14.9 dB
10.0 GHz	1.84 dB	24.8 dB
14.0 GHz	2.45 dB	22.0 dB
18.0 GHz	2.98 dB	12.0 dB





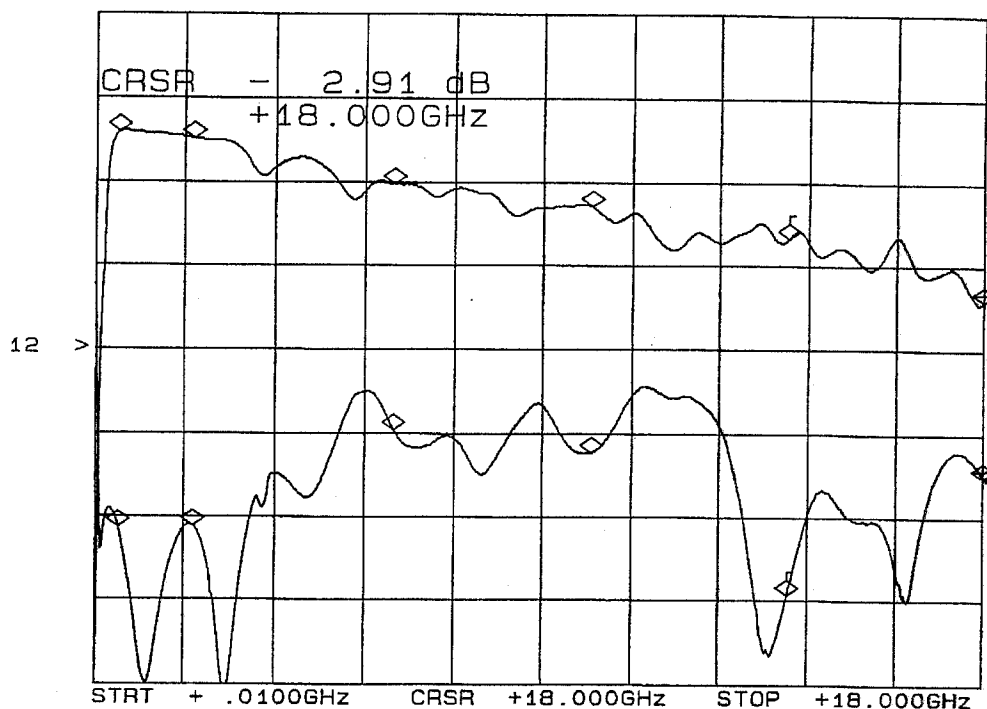
## SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

### INSERTION LOSS & RETURN LOSS\*

J8-J4

CH1: A -M S - 2.91 dB      CH2: B -M      - 17.07 dB  
 1.0 dB/ REF - 3.50 dB      5.0 dB/ REF - 9.54 dB



\*J8: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	0.89 dB	20.1 dB
2.0 GHz	0.97 dB	20.0 dB
6.0 GHz	1.51 dB	14.2 dB
10.0 GHz	1.78 dB	16.6 dB
14.0 GHz	2.16 dB	24.1 dB
18.0 GHz	2.91 dB	17.0 dB

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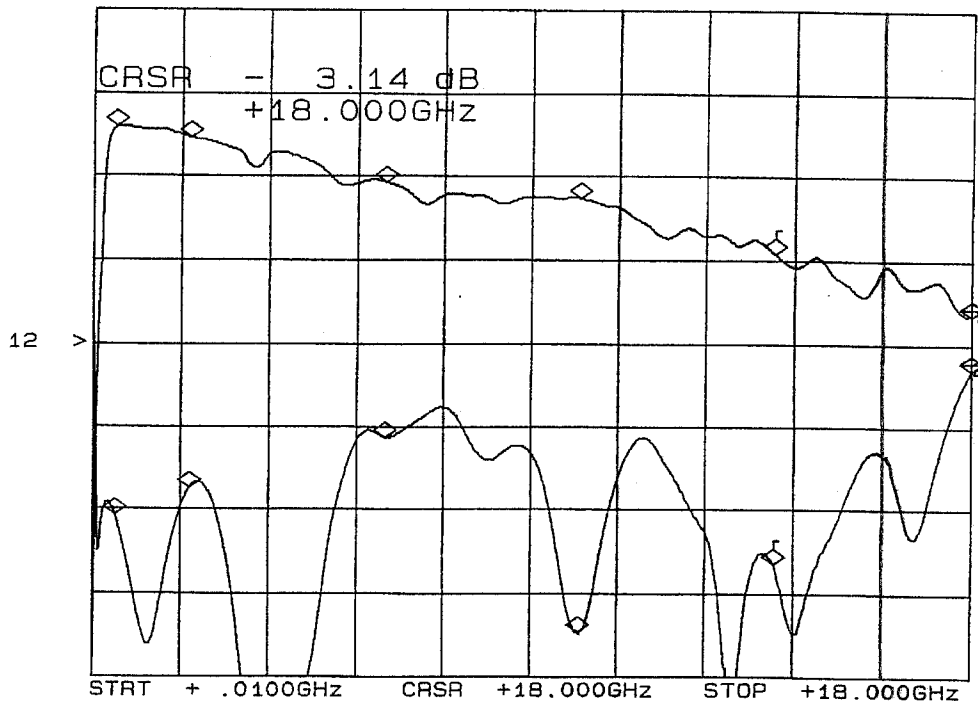
### SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

#### INSERTION LOSS & RETURN LOSS\*

J8-J6

CH1: A -M S - 3.14 dB      CH2: B -M      - 11.05 dB  
 1.0 dB/ REF - 3.50 dB      5.0 dB/ REF - 9.54 dB



\*J8: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	0.89 dB	18.8 dB
2.0 GHz	1.02 dB	18.1 dB
6.0 GHz	1.56 dB	15.1 dB
10.0 GHz	1.76 dB	26.8 dB
14.0 GHz	2.42 dB	22.7 dB
18.0 GHz	3.14 dB	11.0 dB

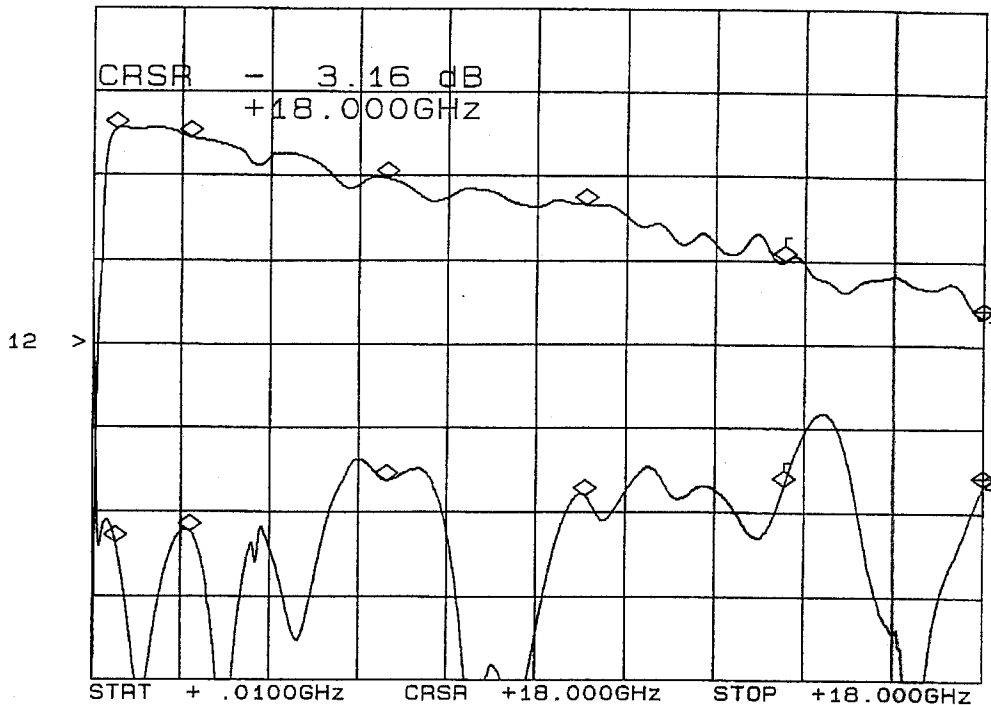


### SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

#### INSERTION LOSS & RETURN LOSS\* J2-J8

CH1: A -M S - 3.16 dB      CH2: B -M - 17.88 dB  
 1.0 dB/ REF - 3.50 dB      5.0 dB/ REF - 9.54 dB



\*J2: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	0.94 dB	21.3 dB
2.0 GHz	1.04 dB	20.6 dB
6.0 GHz	1.53 dB	17.6 dB
10.0 GHz	1.83 dB	18.5 dB
14.0 GHz	2.49 dB	17.9 dB
18.0 GHz	3.16 dB	17.8 dB



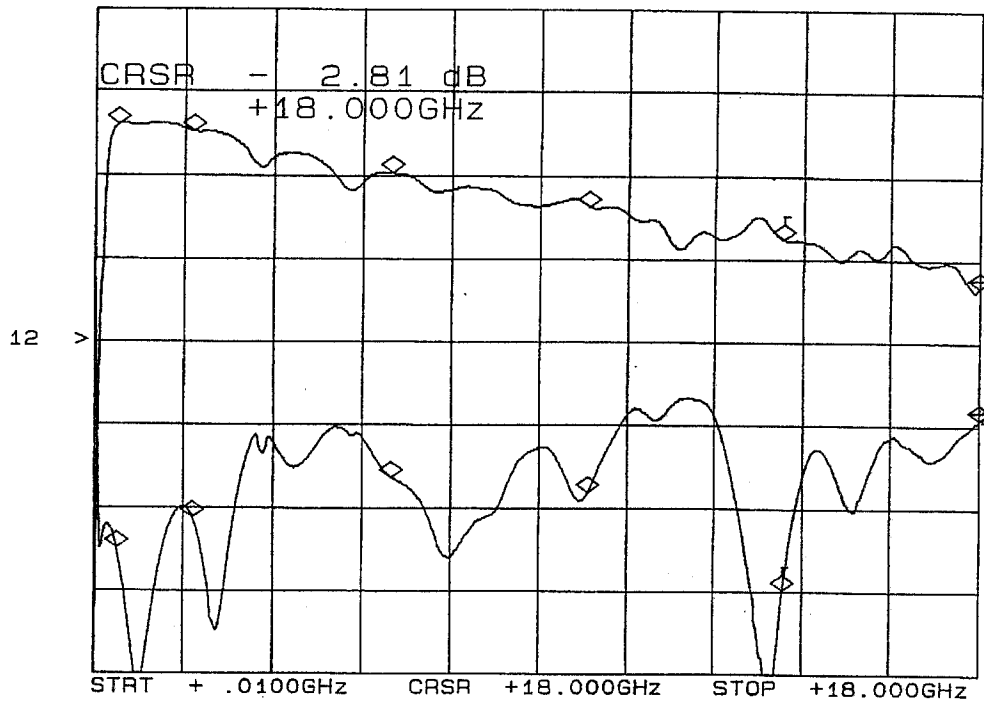
### SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

#### INSERTION LOSS & RETURN LOSS\*

J4-J8

CH1: A -M S - 2.81 dB      CH2: B -M REF - 14.14 dB  
 1.0 dB/ REF - 3.50 dB      5.0 dB/ REF - 9.54 dB



\*J4: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	0.88 dB	21.9 dB
2.0 GHz	0.97 dB	20.0 dB
6.0 GHz	1.45 dB	17.6 dB
10.0 GHz	1.84 dB	18.5 dB
14.0 GHz	2.25 dB	24.4 dB
18.0 GHz	2.81 dB	14.1 dB



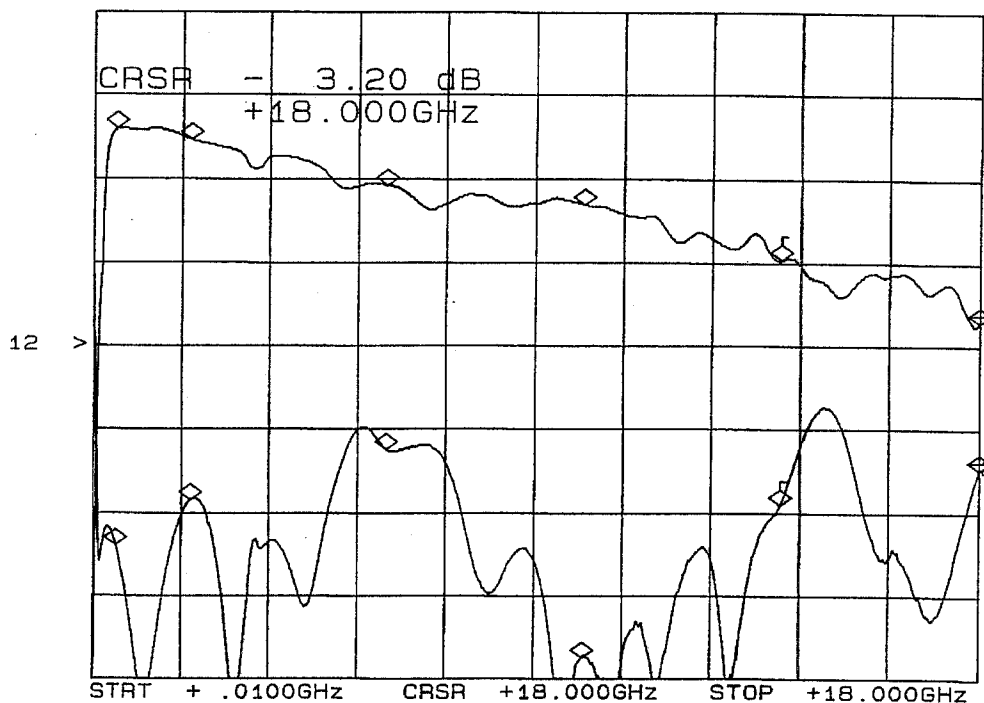
## SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

### INSERTION LOSS & RETURN LOSS\*

J6-J8

CH1: A -M S - 3.20 dB      CH2: B -M REF - 16.90 dB  
 1.0 dB/ REF - 3.50 dB      5.0 dB/ REF - 9.54 dB



\*J6: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
500 MHz	0.90 dB	21.3 dB
2.0 GHz	1.03 dB	18.7 dB
6.0 GHz	1.58 dB	15.7 dB
10.0 GHz	1.79 dB	28.2 dB
14.0 GHz	2.45 dB	18.9 dB
18.0 GHz	3.20 dB	16.9 dB

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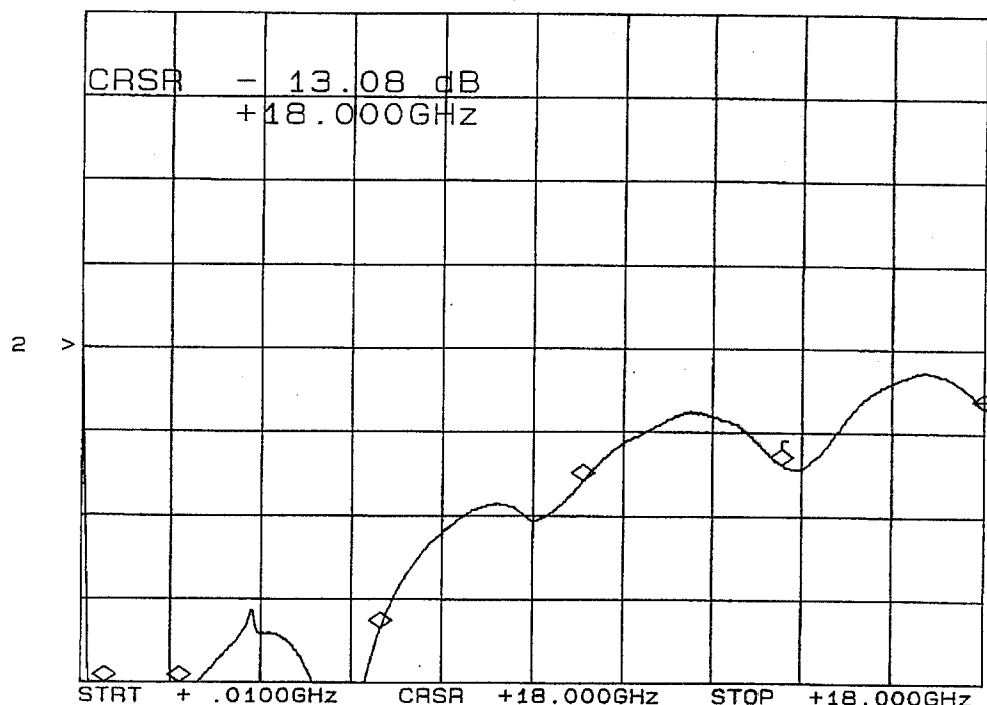
### SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

#### OFF ARM TERMINATION\*

J2

CH2: B -M - 13.08 dB  
5.0 dB/ REF - 9.54 dB



\*J2: INPUT ARM

FREQUENCY	RETURN LOSS
500 MHz	30.7 dB
2.0 GHz	30.8 dB
6.0 GHz	26.2 dB
10.0 GHz	17.4 dB
14.0 GHz	16.4 dB
18.0 GHz	13.0 dB



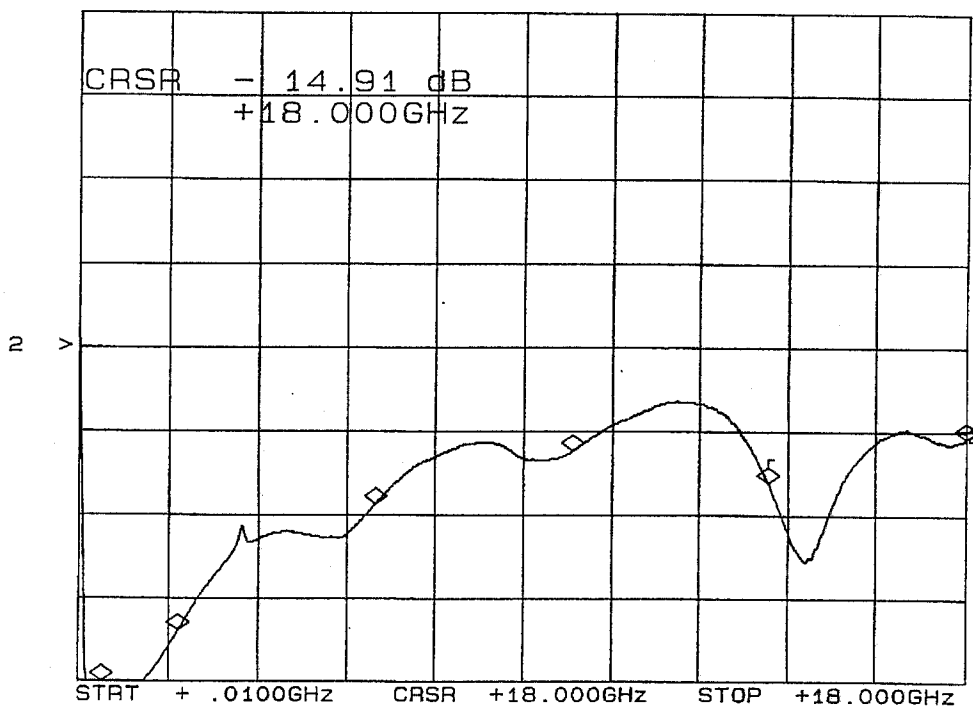
### SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

#### OFF ARM TERMINATION\*

J4

CH2: B -M - 14.91 dB  
5.0 dB/ REF - 9.54 dB



\*J4: INPUT ARM

FREQUENCY	RETURN LOSS
500 MHz	30.7 dB
2.0 GHz	26.4 dB
6.0 GHz	18.7 dB
10.0 GHz	15.6 dB
14.0 GHz	17.5 dB
18.0 GHz	14.9 dB



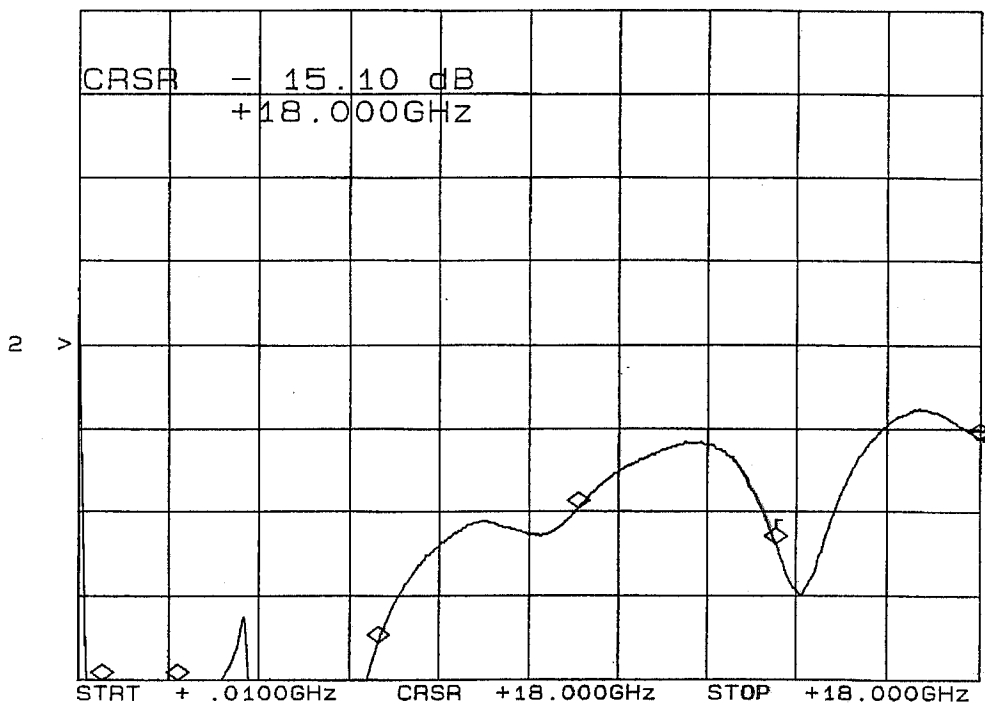
### SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

#### OFF ARM TERMINATION\*

J6

CH2: B -M - 15.10 dB  
5.0 dB/ REF - 9.54 dB



\*J6: INPUT ARM

FREQUENCY	RETURN LOSS
500 MHz	31.8 dB
2.0 GHz	33.2 dB
6.0 GHz	27.2 dB
10.0 GHz	19.2 dB
14.0 GHz	21.4 dB
18.0 GHz	15.1 dB





## SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -48.5mA

### ISOLATION\*

(AS MEASURED ON A SPECTRUM ANALYZER)

FREQUENCY	J2	J4	J6
100 MHZ	88 dB	86 dB	86 dB
500 MHZ	86 dB	89 dB	88 dB
1 GHz	88 dB	89 dB	87 dB
2 GHz	90 dB	93 dB	90 dB
2.45 GHz	98 dB	97 dB	98 dB
4 GHz	100 dB	100 dB	99 dB
6 GHz	100 dB	100 dB	100 dB
8 GHz	100 dB	100 dB	100 dB
10 GHz	100 dB	100 dB	100 dB
12 GHz	90 dB	90 dB	90 dB
14 GHz	90 dB	90 dB	90 dB
16 GHz	90 dB	90 dB	90 dB
18 GHz	90 dB	90 dB	90 dB

\* J1: INPUT ARM

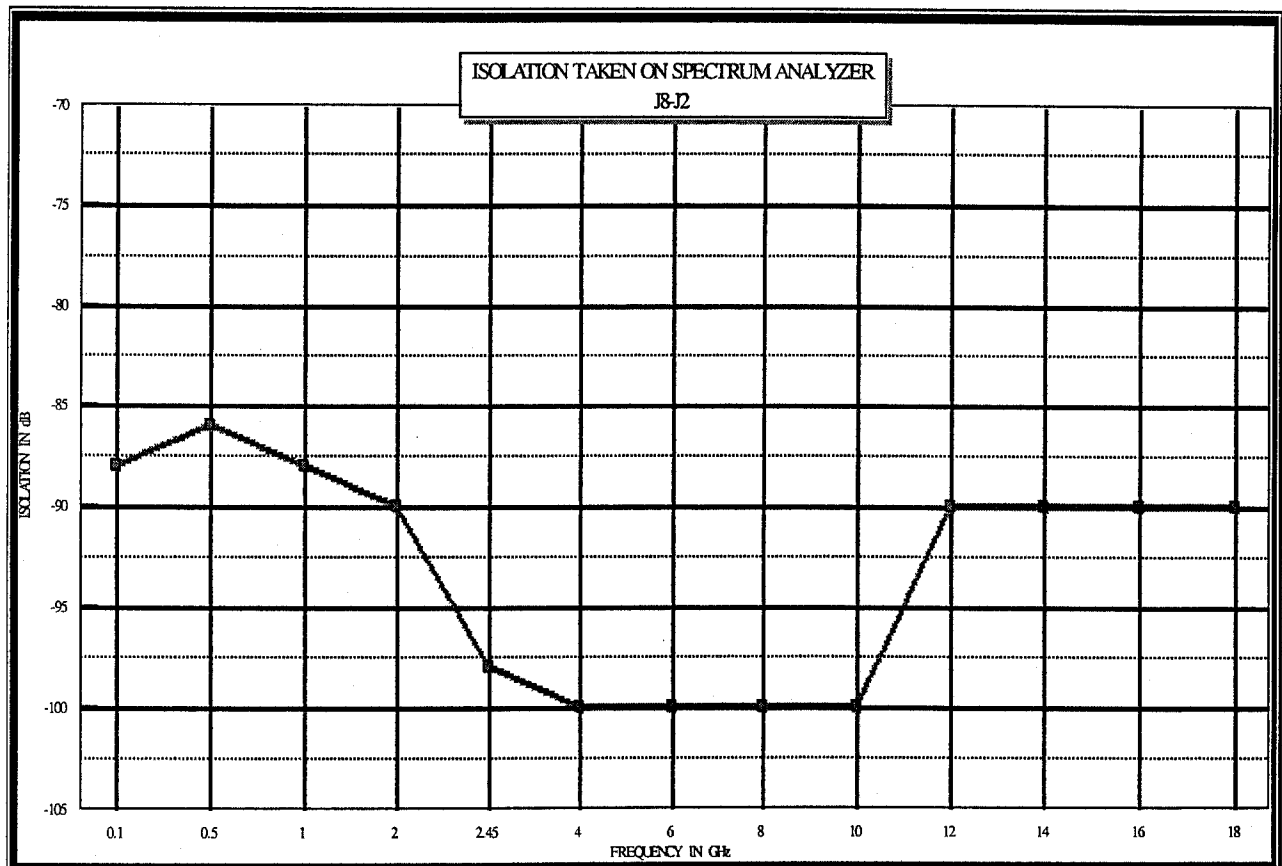
AUGUST 27, 1999



## SUMMARY TEST DATA

MODEL NUMBER	: SWN-1140-3DT OPTIONS 205F, AGAR1PD, HHS
SERIAL NUMBER	: 3MS908274
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc: @ +51.2mA; -5vdc @ -45.8mA

**ISOLATION\***  
(AS MEASURED ON A SPECTRUM ANALYZER)  
J8-J2



\*J8: INPUT ARM

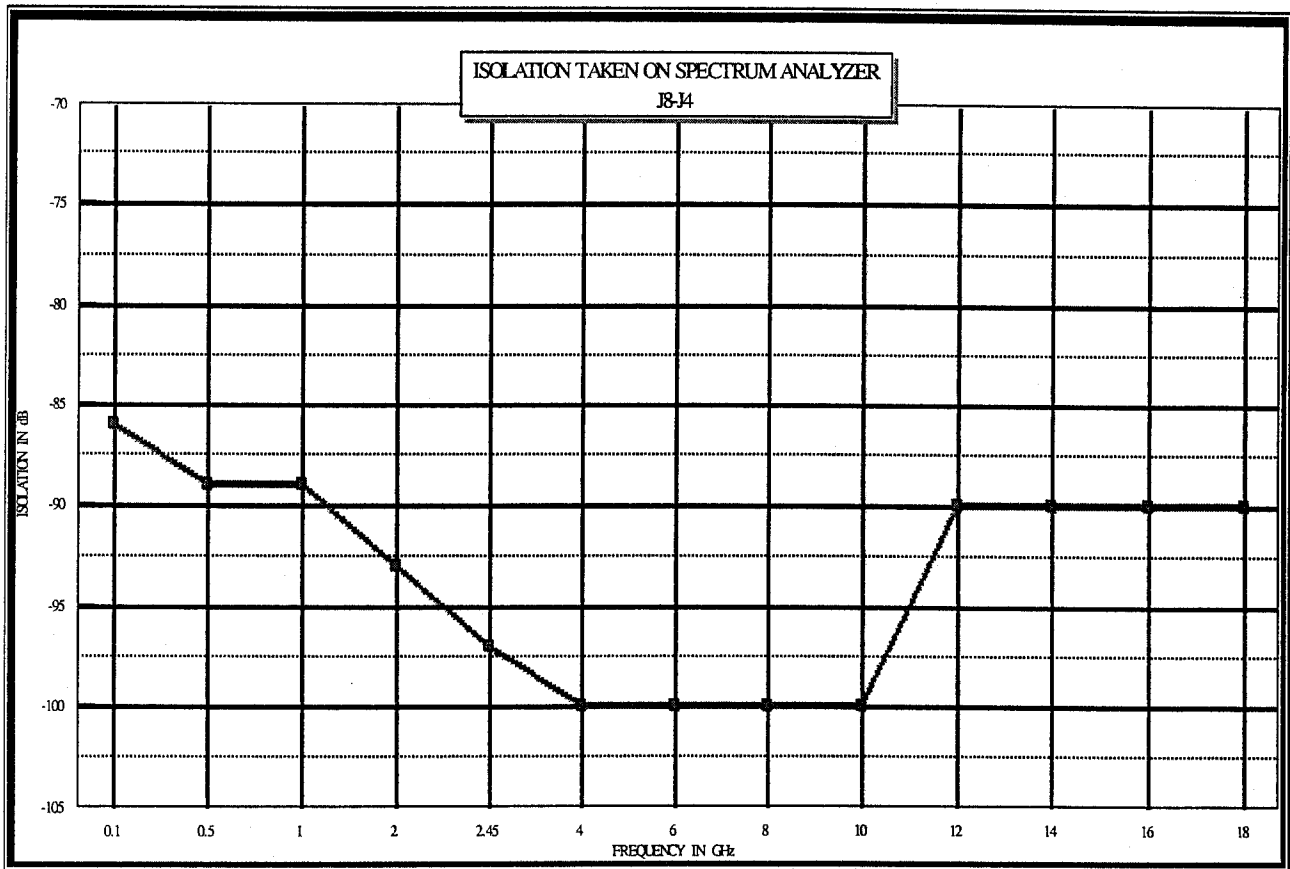
AUGUST 27, 1999



## SUMMARY TEST DATA

MODEL NUMBER	: SWN-1140-3DT OPTIONS 205F, AGAR1PD, HHS
SERIAL NUMBER	: 3MS908274
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc: @ +51.2mA; -5vdc @ -45.8mA

**ISOLATION\***  
(AS MEASURED ON A SPECTRUM ANALYZER)  
J8-J4



\*J8: INPUT ARM

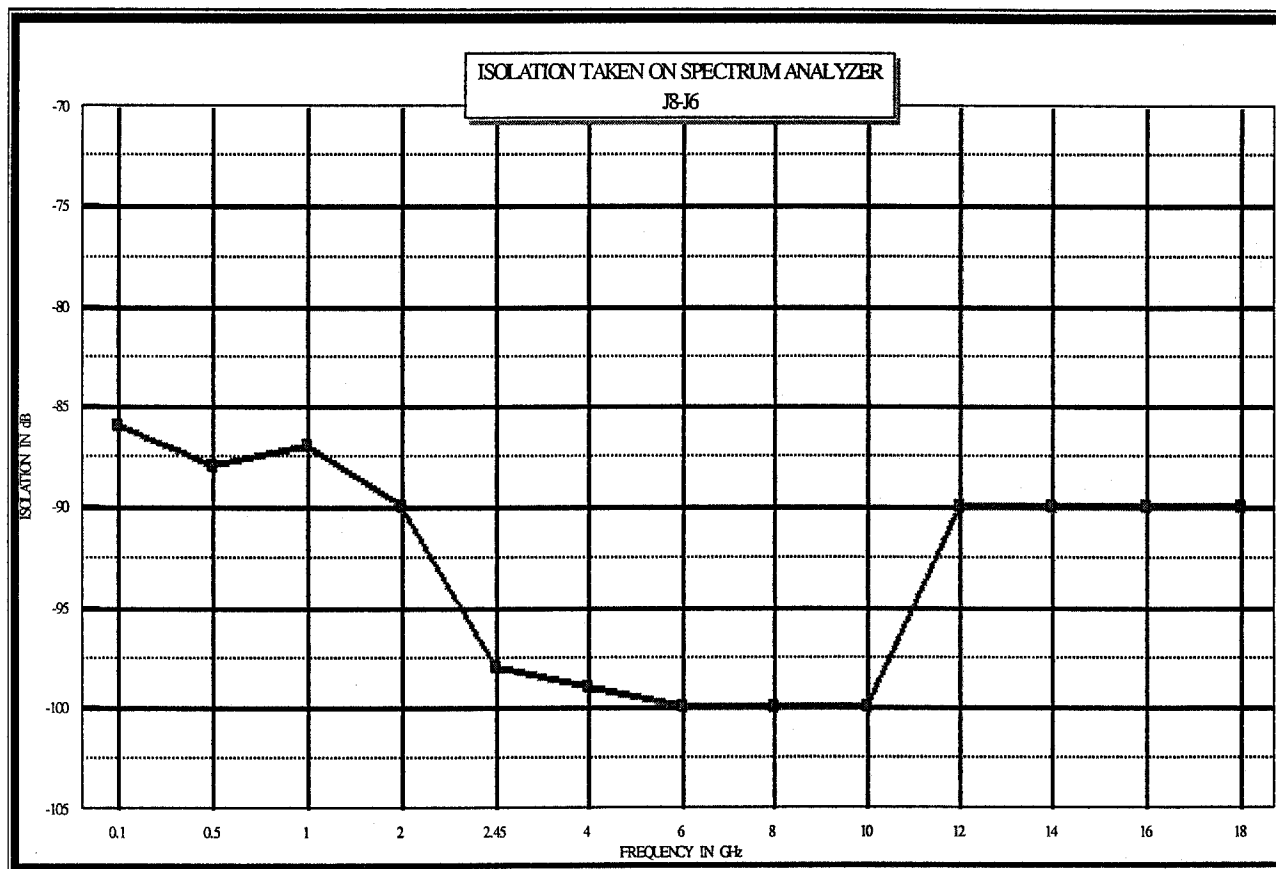
AUGUST 27, 1999



### SUMMARY TEST DATA

MODEL NUMBER	: SWN-1140-3DT OPTIONS 205F, AGAR1PD, HHS
SERIAL NUMBER	: 3MS908274
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc @ +51.2mA; -5vdc @ -45.8mA

**ISOLATION\***  
(AS MEASURED ON A SPECTRUM ANALYZER)  
J8-J6



\*J8: INPUT ARM

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**AMPLITUDE  
DATA  
BETWEEN  
PORT TO PORT  
FROM**

**500 MHz TO 18 GHz**

**ON**

**SP3T**

**RADIAL SOLID STATE SWITCH  
(SURFACE MOUNTABLE)**

**AMC MODEL No:  
SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
(Serial Number: 3MS908274)**

**REPORTED AND PREPARED  
BY  
RENE AFABLE**

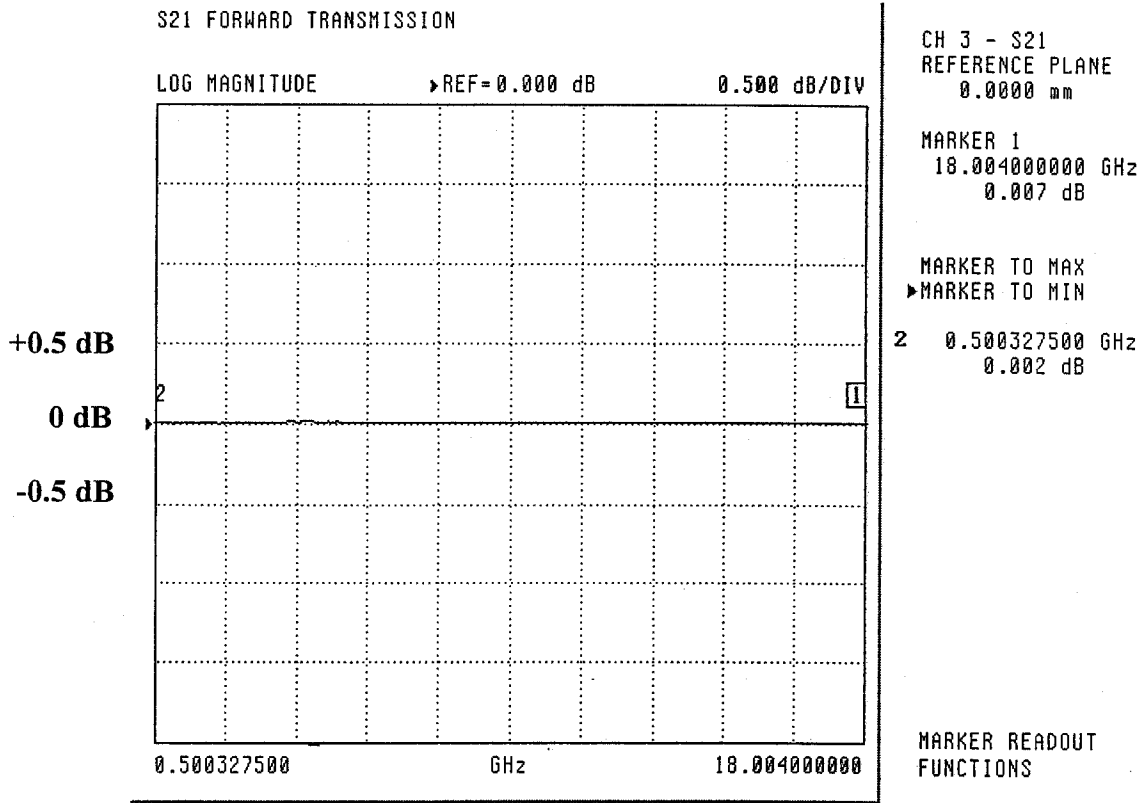
**AUGUST 27, 1999**



### SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

**AMPLITUDE\***  
**J8-J2 (REFERENCE)**



\*J8: INPUT ARM

FREQUENCY	AMPLITUDE (MAXIMUM) (POSITIVE SIDE)	AMPLITUDE (MAXIMUM) (NEGATIVE SIDE)
500 MHZ		0.002 dB
18 GHz	0.007 dB	

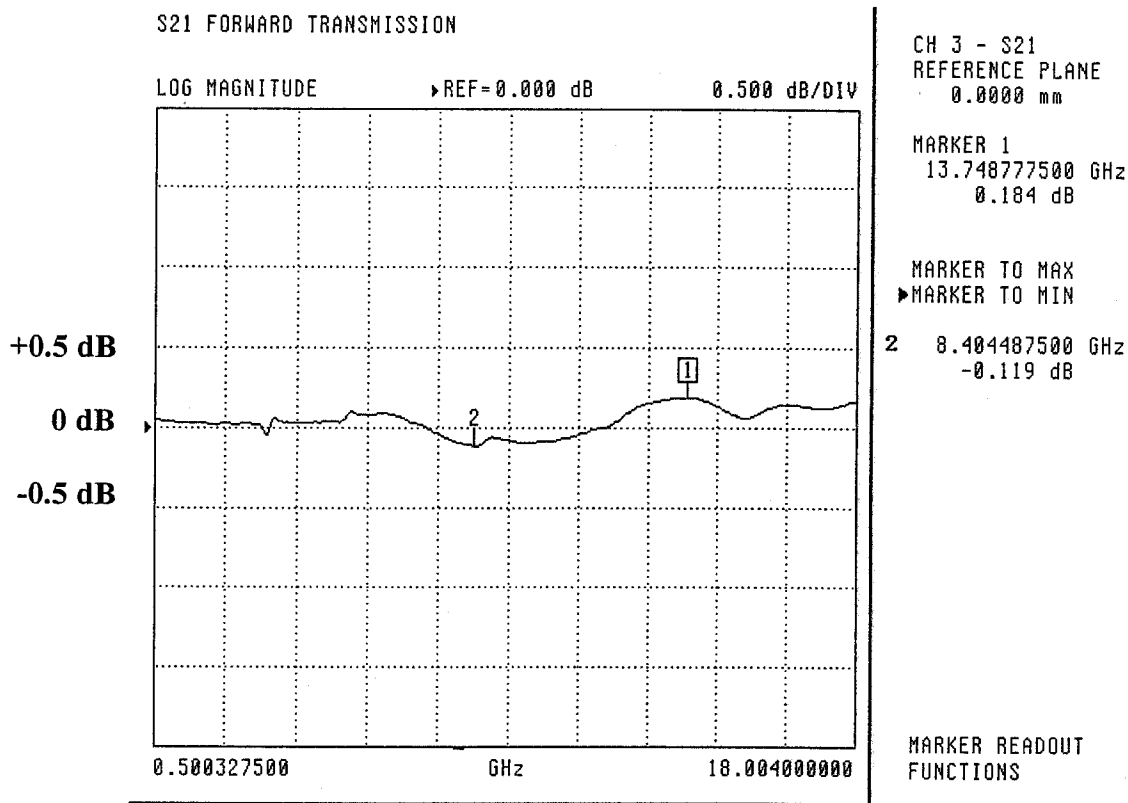
AUGUST 27, 1999



### SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

**AMPLITUDE\***  
J8-J4



\*J8: INPUT ARM

FREQUENCY	AMPLITUDE (MAXIMUM) (POSITIVE SIDE)	AMPLITUDE (MAXIMUM) (NEGATIVE SIDE)
13.74 GHZ	0.184 dB	
8.40 GHZ		-0.119 dB

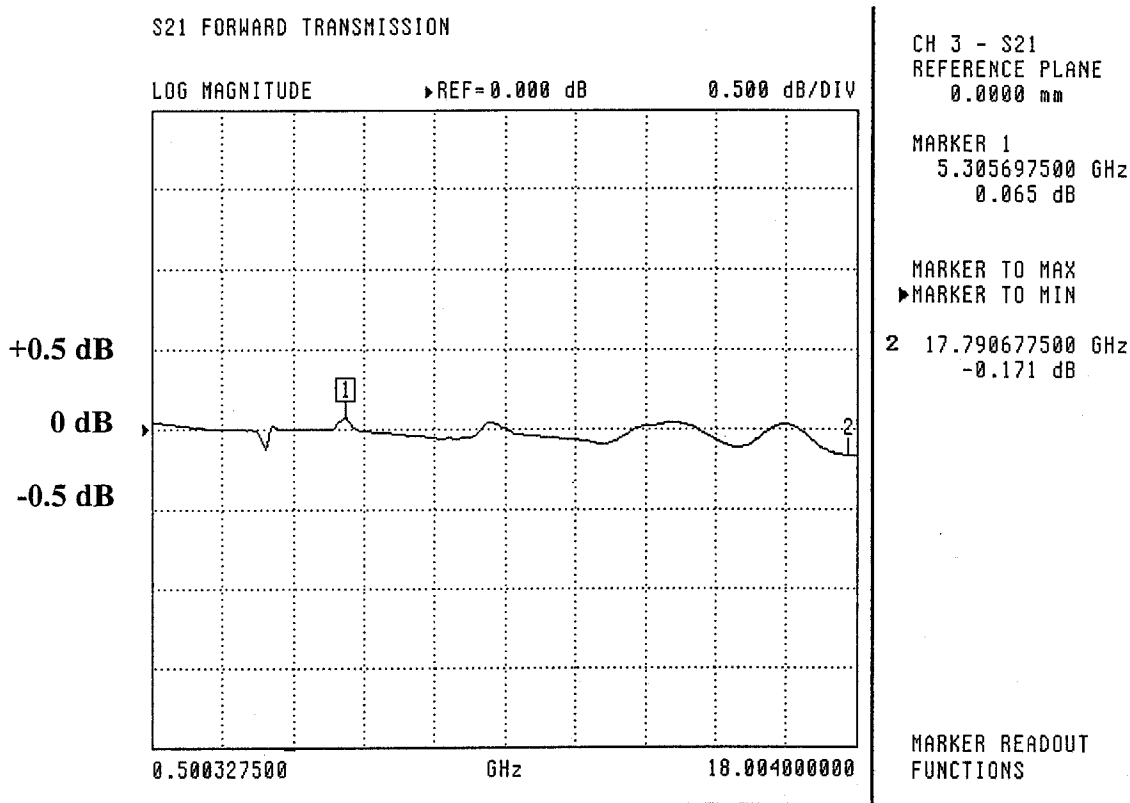
AUGUST 27, 1999



### SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+ 51.2mA; -5vdc: @ -45.8mA

#### AMPLITUDE\* J8-J6



\*J8: INPUT ARM

FREQUENCY	AMPLITUDE (MAXIMUM) (POSITIVE SIDE)	AMPLITUDE (MAXIMUM) (NEGATIVE SIDE)
5.30 GHz	0.065 dB	
17.79 GHz		-0.171 dB

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**PHASE  
DATA  
BETWEEN  
PORT TO PORT  
FROM**

**500 MHz TO 18 GHz**

**ON A**

**SP3T**

**RADIAL SOLID STATE SWITCH  
(SURFACE MOUNTABLE)**

**AMC MODEL No:  
SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
(Serial Number: 3MS908274)**

**REPORTED AND PREPARED  
BY  
RENE AFABLE**

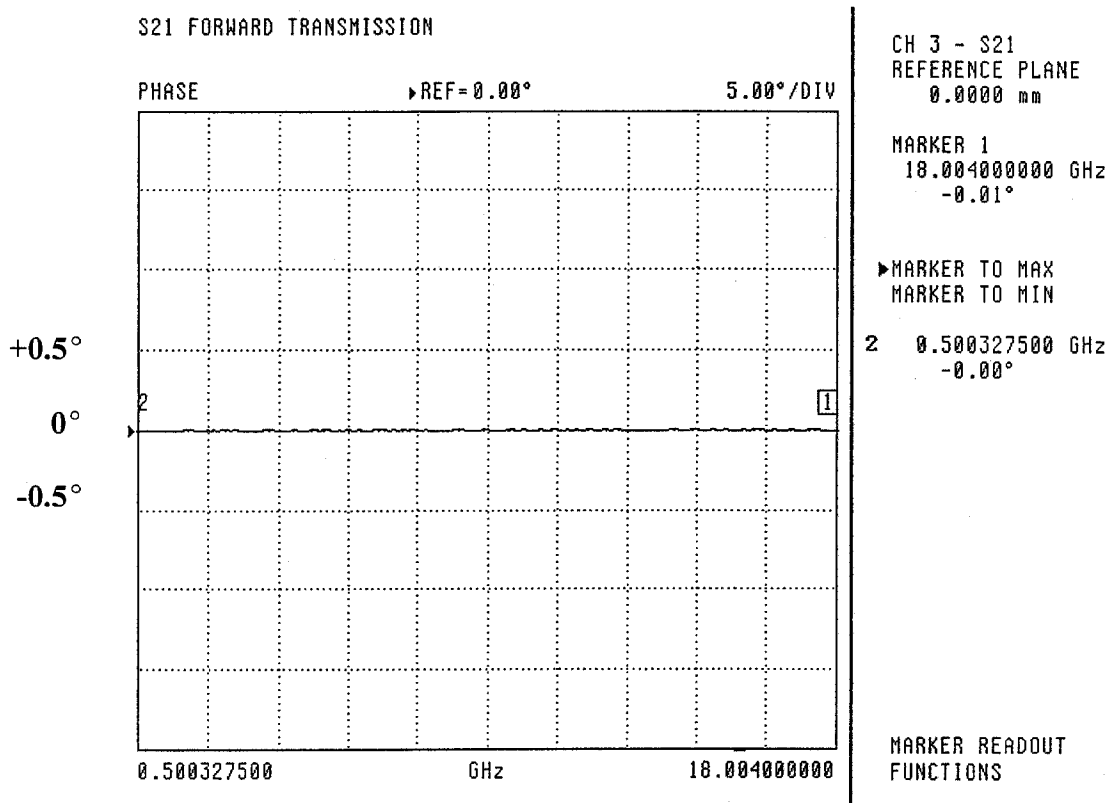
**AUGUST 27, 1999**



### SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

#### PHASE\* J8-J2 (REFERENCE)



\*J8: INPUT ARM

FREQUENCY	PHASE (MAXIMUM) (POSITIVE SIDE)	PHASE (MAXIMUM) (NEGATIVE SIDE)
500 MHZ	0.000°	
18.00 GHz		-0.01°

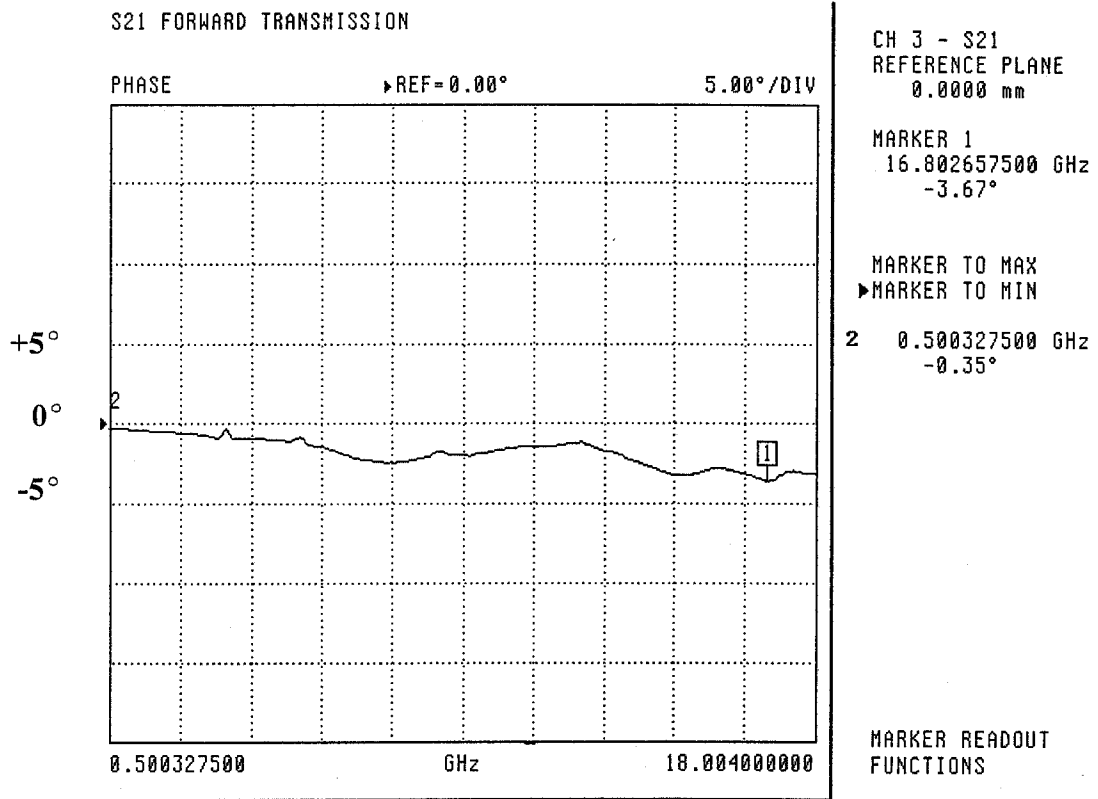
AUGUST 27, 1999



### SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

**PHASE\***  
J8-J4



\*J8: INPUT ARM

FREQUENCY	PHASE (MAXIMUM) (POSITIVE SIDE)	PHASE (MAXIMUM) (NEGATIVE SIDE)
500 MHZ		-0.35°
16.80 GHz		-3.67°

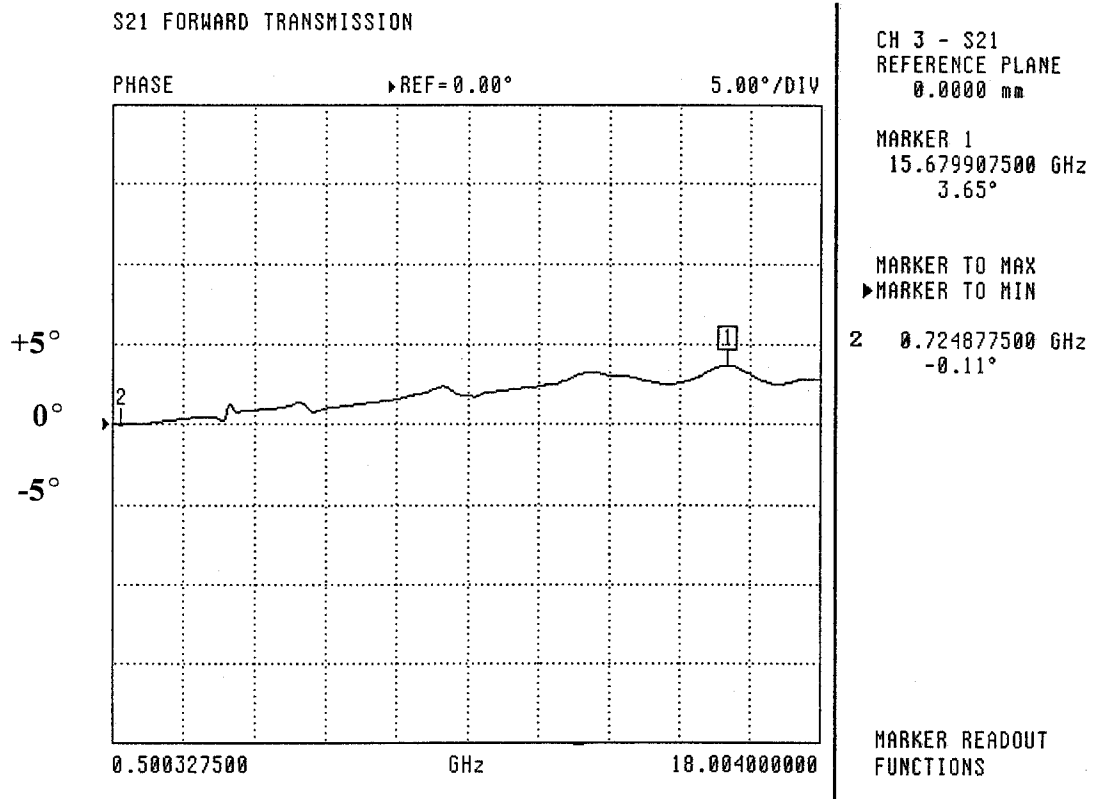
AUGUST 27, 1999



**SUMMARY TEST DATA**

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

**PHASE\***  
**J8-J6**



\*J8: INPUT ARM

FREQUENCY	PHASE (MAXIMUM) (POSITIVE SIDE)	PHASE (MAXIMUM) (NEGATIVE SIDE)
15.65 GHZ	3.65°	
0.72 GHZ		-0.11°

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**TEST DATA**

**FROM**

**60 MHz TO 2 GHz**

**ON A**

**SP3T**

**RADIAL SOLID STATE SWITCH**

**(SURFACE MOUNTABLE)**

**AMC MODEL No:**

**SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH**

**(Serial Number: 3MS908274)**

**REPORTED AND PREPARED**

**BY**

**RENE AFABLE**

**AUGUST 27, 1999**

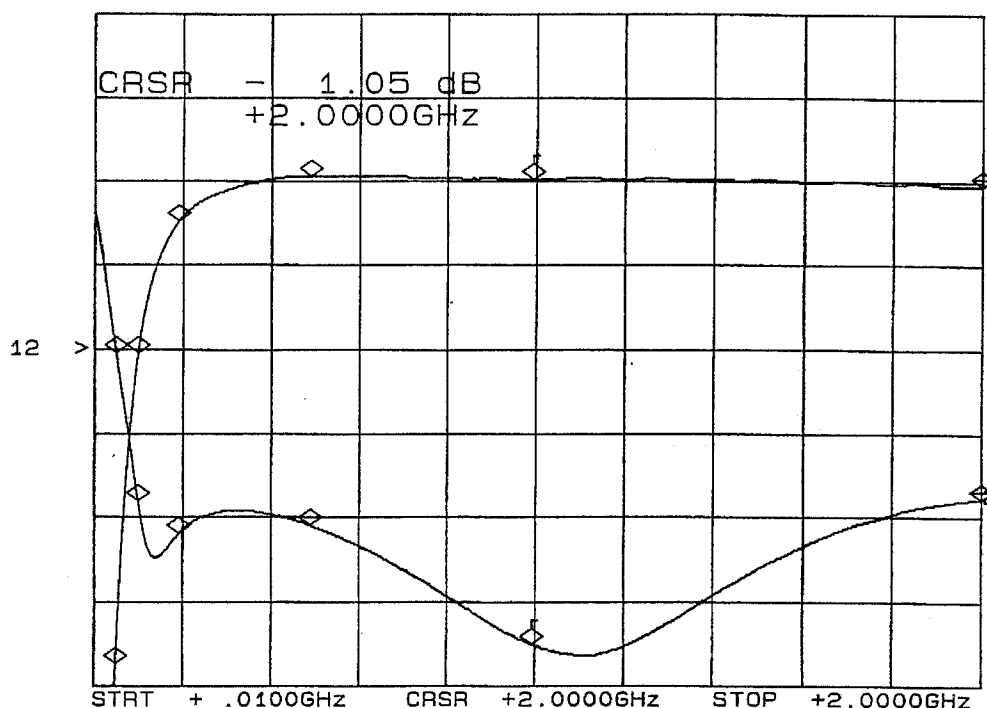


### SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

#### INSERTION LOSS & RETURN LOSS\* J8-J2

CH1: A -M S - 1.05 dB      CH2: B -M - 18.26 dB  
 1.0 dB/ REF - 3.00 dB      5.0 dB/ REF - 9.40 dB



\*J8: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
60 MHz	6.72 dB	9.50 dB
110 MHz	3.02 dB	18.4 dB
200 MHz	1.47 dB	20.3 dB
500 MHz	0.92 dB	19.8 dB
1 GHz	0.97 dB	26.8 dB
2 GHz	1.05 dB	18.2 dB



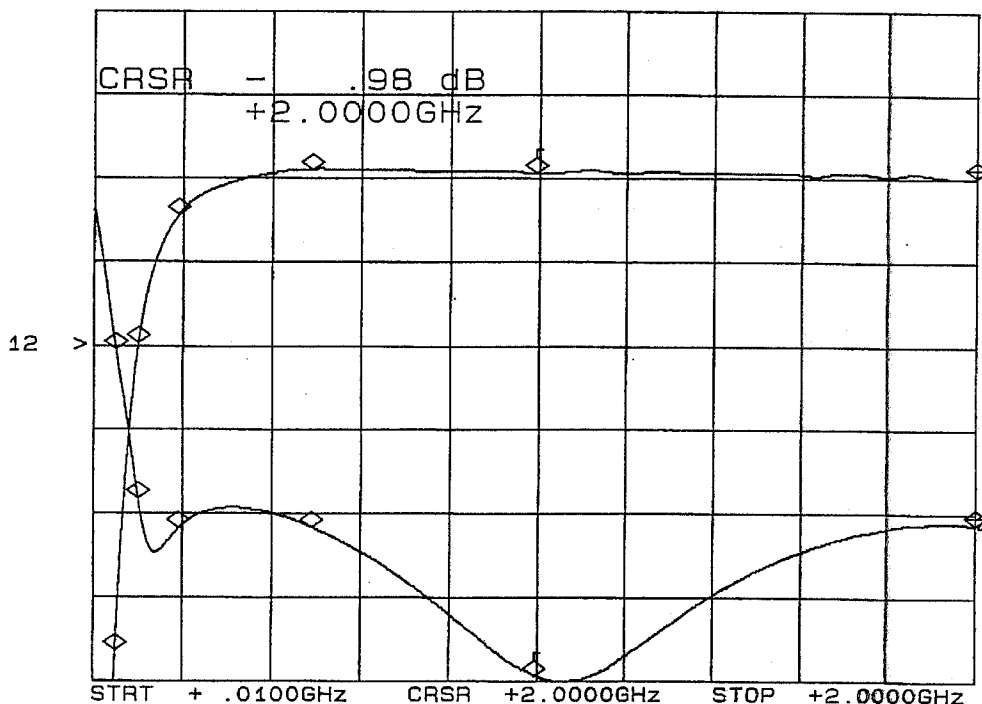
### SUMMARY TEST DATA

MODEL NUMBER	: SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH
SERIAL NUMBER	: 3MS908274
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc: @+51.2mA; -5vdc: @ -45.8mA

#### INSERTION LOSS & RETURN LOSS\*

J8-J4

CH1: A -M S - .98 dB CH2: B -M - 20.00 dB  
 1.0 dB/ REF - 3.00 dB 5.0 dB/ REF - 9.40 dB



\*J8: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
60 MHz	6.62 dB	9.52 dB
110 MHz	2.95 dB	18.5 dB
200 MHz	1.43 dB	20.2 dB
500 MHz	0.88 dB	20.1 dB
1 GHz	0.93 dB	29.0 dB
2 GHz	0.98 dB	20.0 dB



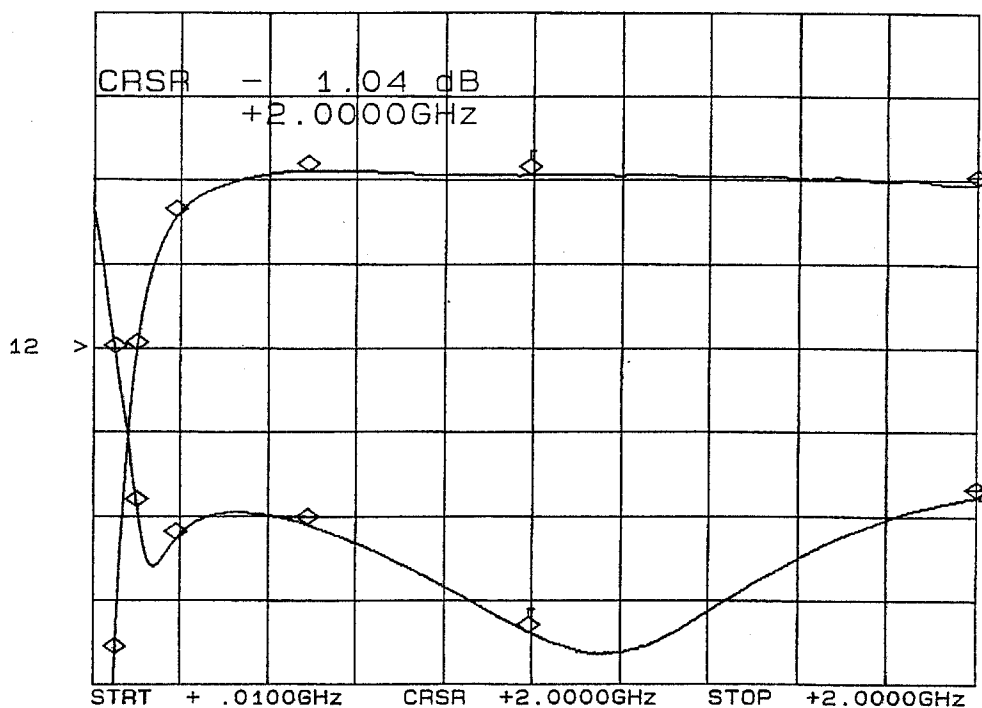
### SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

#### INSERTION LOSS & RETURN LOSS\*

J8-J6

CH1: A -M S - 1.04 dB      CH2: B -M - 18.22 dB  
 1.0 dB/ REF - 3.00 dB      5.0 dB/ REF - 9.40 dB



\*J8: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
60 MHz	6.62 dB	9.62 dB
110 MHz	3.01 dB	18.7 dB
200 MHz	1.44 dB	20.6 dB
500 MHz	0.89 dB	19.8 dB
1 GHz	0.94 dB	26.2 dB
2 GHz	1.04 dB	18.2 dB





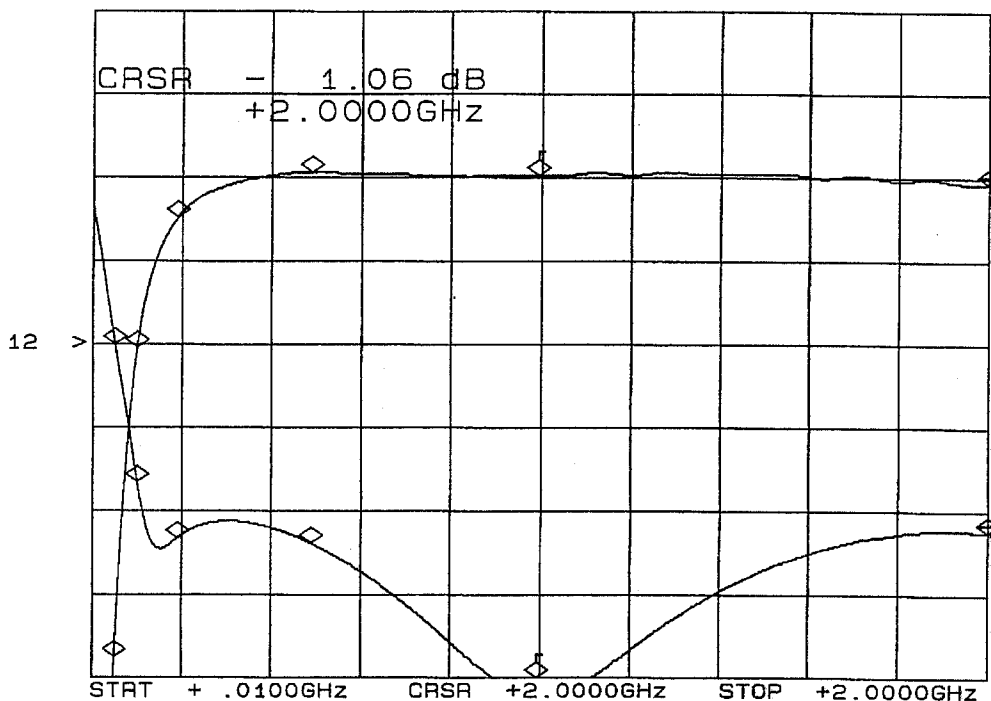
### SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

#### INSERTION LOSS & RETURN LOSS\*

J2-J8

CH1: A -M S - 1.06 dB      CH2: B -M REF - 20.63 dB  
 1.0 dB/ REF - 3.00 dB      5.0 dB/ REF - 9.40 dB



\*J2: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
60 MHz	6.73 dB	9.32 dB
110 MHz	3.02 dB	17.6 dB
200 MHz	1.47 dB	20.9 dB
500 MHz	0.93 dB	21.3 dB
1 GHz	0.97 dB	30.4 dB
2 GHz	1.06 dB	20.6 dB



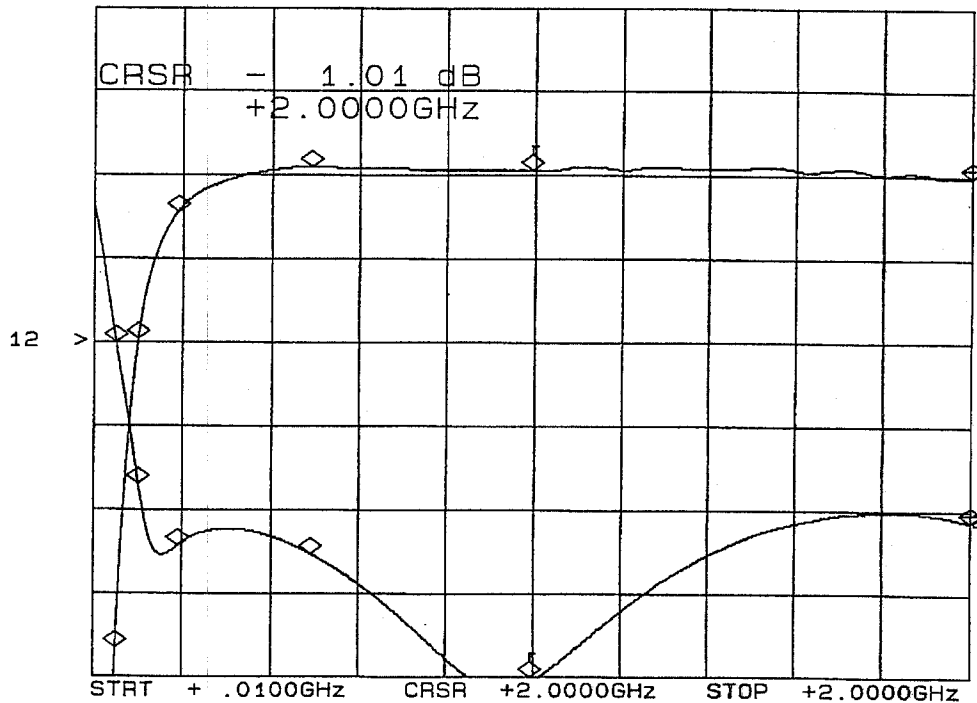
### SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

### INSERTION LOSS & RETURN LOSS\*

J4-J8

CH1: A -M S - 1.01 dB      CH2: B -M REF - 20.04 dB  
 1.0 dB/ REF - 3.00 dB      5.0 dB/ REF - 9.40 dB



\*J4: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
60 MHz	6.63 dB	9.36 dB
110 MHz	2.95 dB	17.7 dB
200 MHz	1.42 dB	21.4 dB
500 MHz	0.89 dB	21.9 dB
1 GHz	0.93 dB	29.6 dB
2 GHz	1.01 dB	20.0 dB



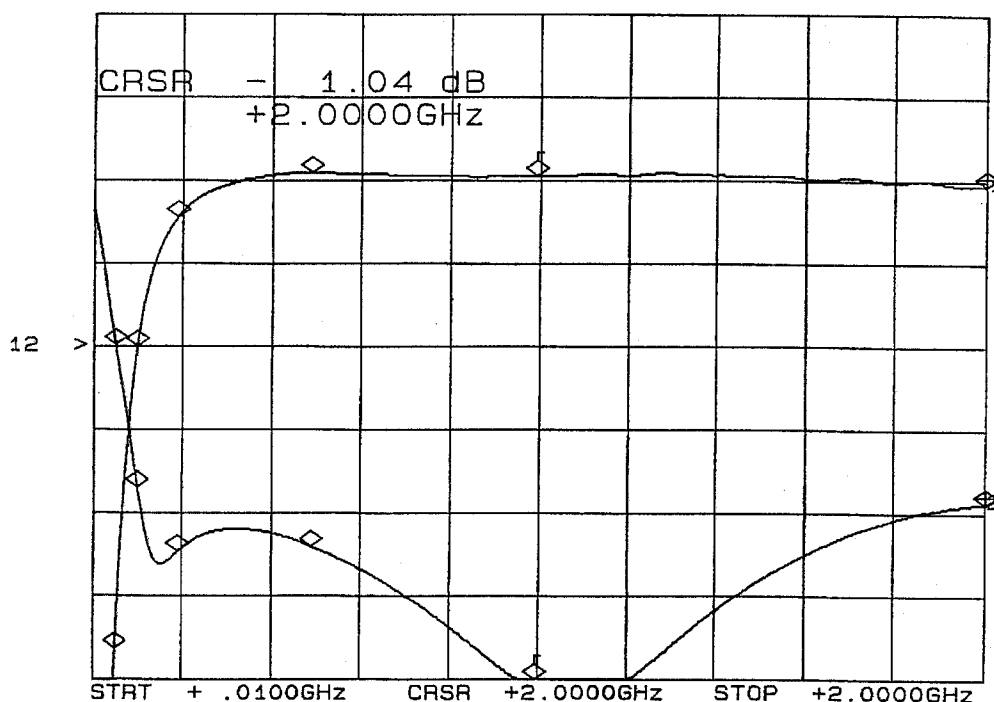
## SUMMARY TEST DATA

MODEL NUMBER	: SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH
SERIAL NUMBER	: 3MS908274
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc: @+51.2mA; -5vdc: @ -45.8mA

### INSERTION LOSS & RETURN LOSS\*

J6-J8

CH1: A -M S - 1.04 dB	CH2: B -M - 18.74 dB
1.0 dB/ REF - 3.00 dB	5.0 dB/ REF - 9.40 dB



\*J6: INPUT ARM

FREQUENCY	INSERTION LOSS	RETURN LOSS
60 MHz	6.62 dB	9.29 dB
110 MHz	2.99 dB	17.7 dB
200 MHz	1.43 dB	21.7 dB
500 MHz	0.89 dB	21.3 dB
1 GHz	0.94 dB	29.9 dB
2 GHz	1.04 dB	18.7 dB

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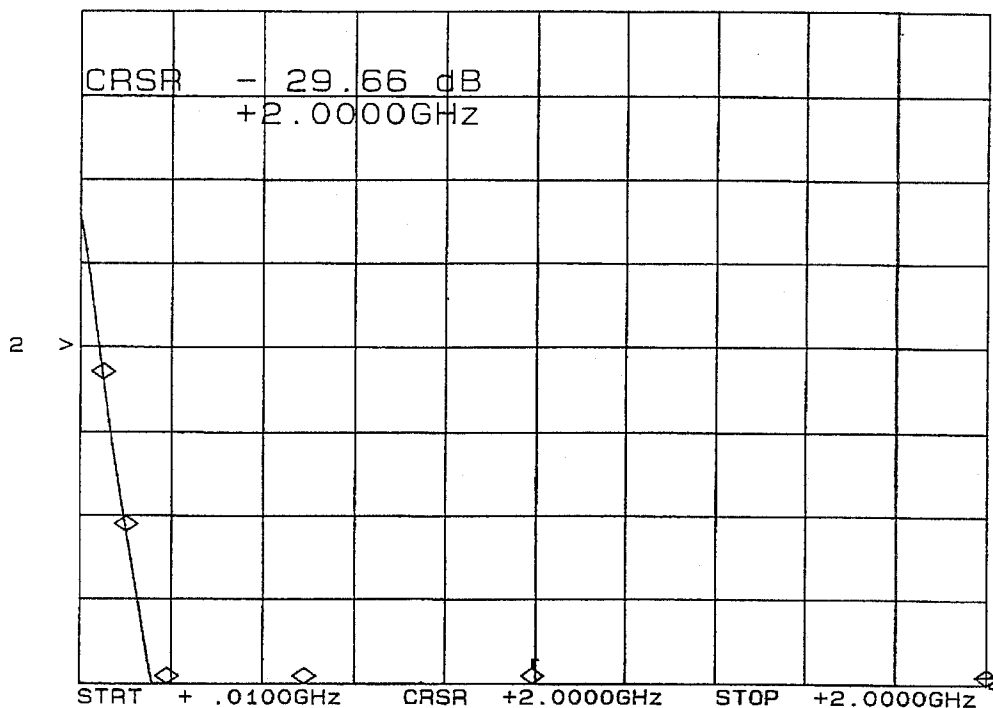
### SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

#### OFF ARM TERMINATION\*

J2

CH2: B -M - 29.66 dB  
 5.0 dB/ REF - 9.40 dB



\*J2: INPUT ARM

FREQUENCY	RETURN LOSS
60 MHz	11.2 dB
110 MHz	20.2 dB
200 MHz	34.0 dB
500 MHz	29.9 dB
1 GHz	29.7 dB
2 GHz	29.6 dB



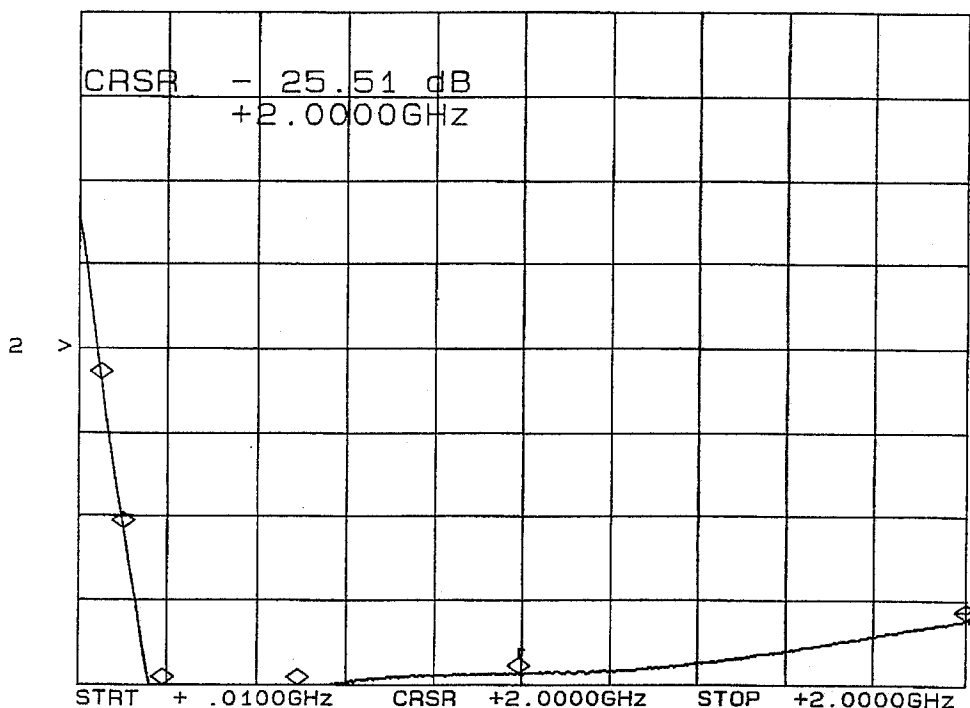
### SUMMARY TEST DATA

MODEL NUMBER	: SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH
SERIAL NUMBER	: 3MS908274
ENGINEER	: RENE AFABLE
VOLTAGE & CURRENT DRAW	: +5vdc: @+51.2mA; -5vdc: @ -45.8mA

#### OFF ARM TERMINATION\*

J4

CH2: B -M - 25.51 dB  
5.0 dB/ REF - 9.40 dB



\*J4: INPUT ARM

FREQUENCY	RETURN LOSS
60 MHz	11.2 dB
110 MHz	20.0 dB
200 MHz	33.8 dB
500 MHz	29.8 dB
1 GHz	28.6 dB
2 GHz	25.5 dB



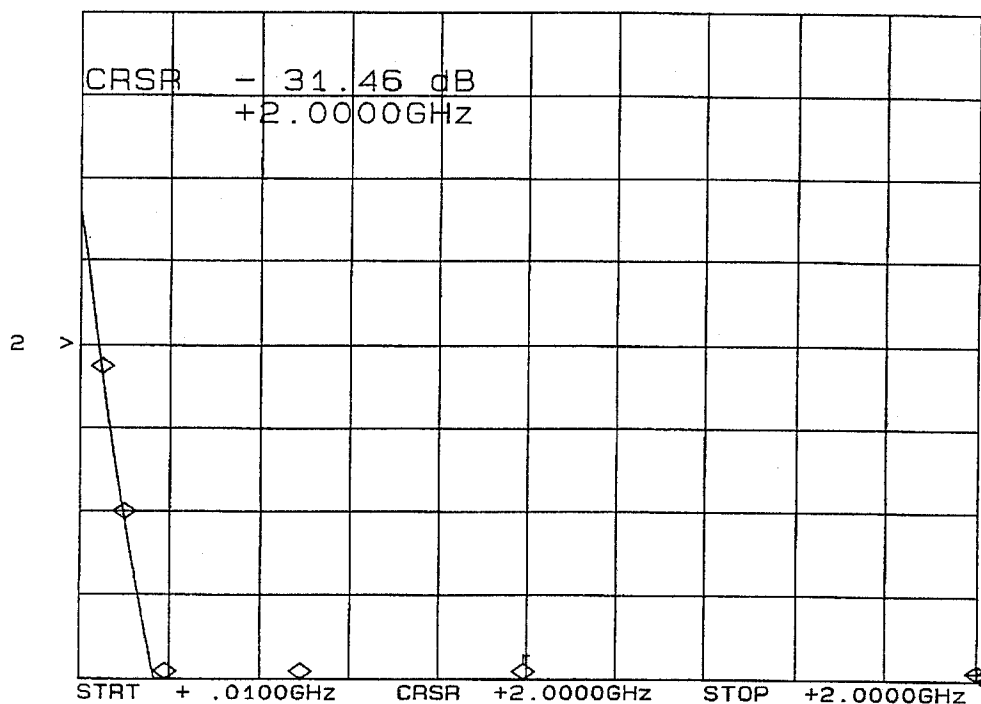
**SUMMARY TEST DATA**

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -45.8mA

**OFF ARM TERMINATION\***

J6

CH2: B -M - 31.46 dB  
 5.0 dB/ REF - 9.40 dB



\*J6: INPUT ARM

FREQUENCY	RETURN LOSS
60 MHz	11.0 dB
110 MHz	18.8 dB
200 MHz	32.4 dB
500 MHz	31.0 dB
1 GHz	30.7 dB
2 GHz	31.4 dB



## SUMMARY TEST DATA

**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @+51.2mA; -5vdc: @ -48.5mA

### SWITCHING SPEED

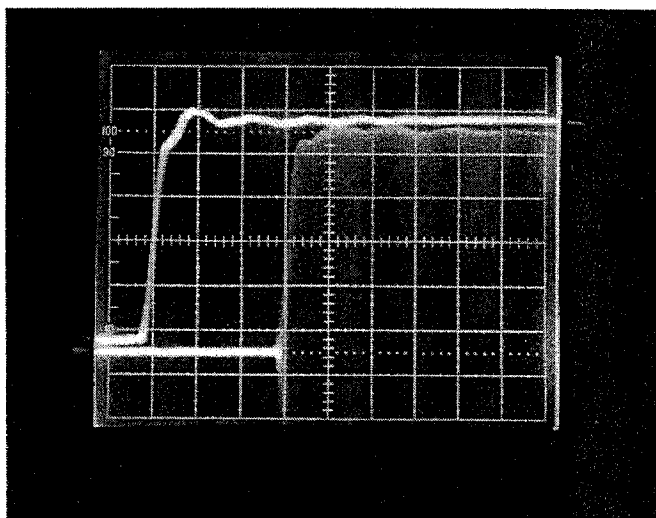
"Rise/Fall" Time: 10% RF to 90% RF & 90% RF to 10% RF  
 "On/Off" Time: 50% TTL to 90% RF or 10% RF

### TYPICAL OF ALL ARMS

"DELAY ON": 32 nS  
 "RISE TIME": 3 nS

HORIZONTAL SCALE:  
 10 nS PER DIVISION

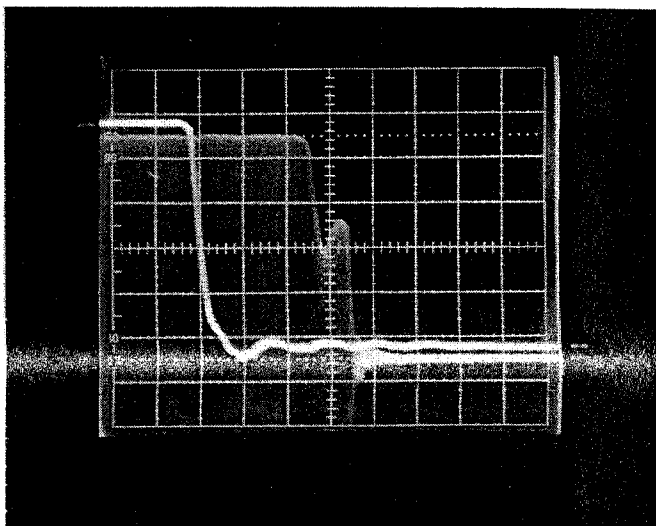
VERTICAL SCALE:  
 10 mV PER DIVISION



"DELAY OFF": 35 nS  
 "FALL TIME": 10 nS

HORIZONTAL SCALE:  
 10 nS PER DIVISION

VERTICAL SCALE:  
 10 mV PER DIVISION



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## SUMMARY TEST DATA

MODEL NUMBER	: SWN-1140-3DT	OPTIONS 205F, AGAR1PD, SSH
SERIAL NUMBER	: 3MS908274	
ENGINEER	: RENE AFABLE	
VOLTAGE & CURRENT DRAW	: +5vdc: @+ 51.2mA; -5vdc: @ -48.5mA	

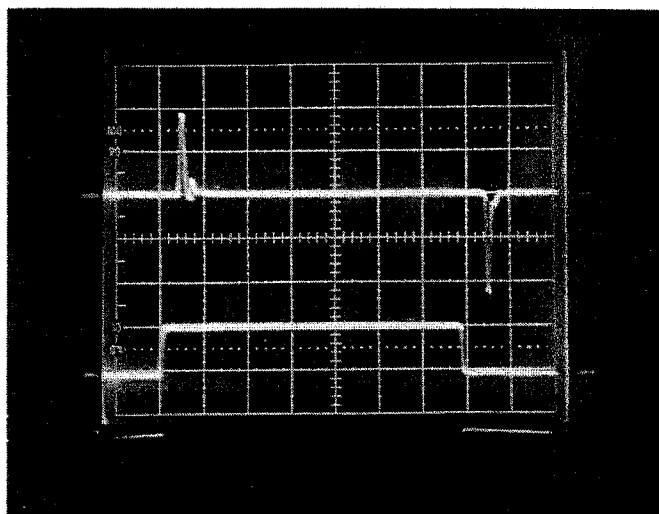
### VIDEO TRANSIENTS

TYPICAL OF ALL ARMS

$\leq 2.1$  V P-P  
MEASURED IN A  
300 MHZ BANDWIDTH

VERTICAL SCALE:  
0.5 V PER DIVISION

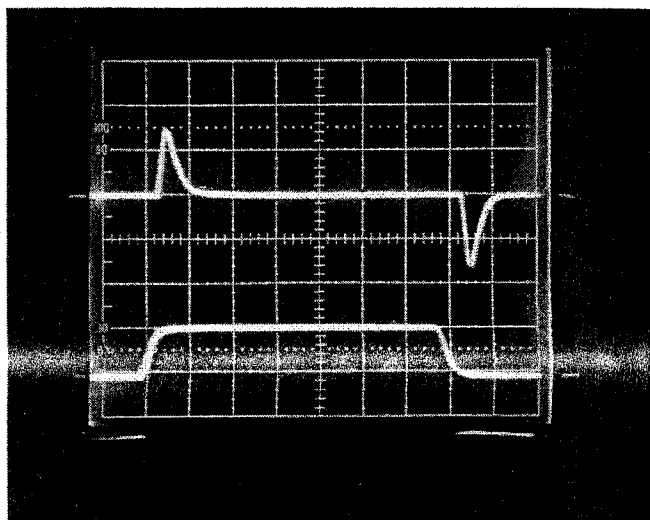
HORIZONTAL SCALE:  
50 nS PER DIVISION



$\leq 620$  mV P-P  
MEASURED IN A  
20 MHZ BANDWIDTH

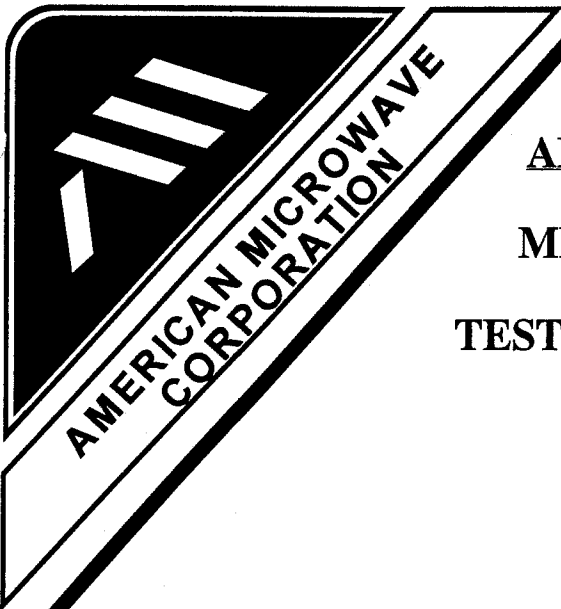
VERTICAL SCALE:  
0.2 V PER DIVISION

HORIZONTAL SCALE:  
50 nS PER DIVISION



AUGUST 27, 1999





**APPENDIX A-SSH**  
**MISCELLANEOUS**  
**TEST DATA AND PLOTS**  
**ON**  
**ISOLATION**  
**AS**  
**MEASURED**  
**ON A SCALAR NETWORK**

**ANALYZER**  
(NOISE FLOOR OF SCALAR NETWORK ANALYZER IS -70 dB)

**ON A**  
**SP3T**

**RADIAL SOLID STATE SWITCH**  
(SURFACE MOUNTABLE)

**AMC MODEL No:**  
**SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH**  
(Serial Number: 3MS908274)

**FROM 500 MHz TO 18 GHz**

**AND**

**FROM 60 MHz TO 2 GHz**

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## SUMMARY TEST DATA

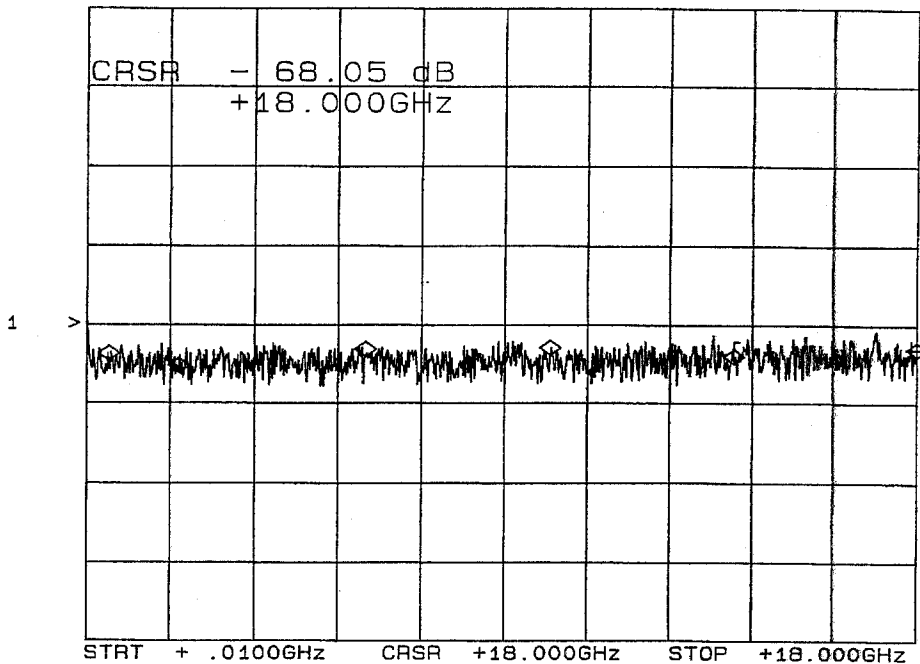
**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @ +51.2mA; -5vdc @ -45.8mA

### ISOLATION\*

(AS MEASURED ON A SCALAR NETWORK ANALYZER)

J8-J2

CH1: A -M - 68.05 dB  
20.0 dB/ REF - 60.00 dB



\*J8: INPUT ARM

FREQUENCY	ISOLATION
500 MHz	69.1 dB
2.0 GHz	72.2 dB
6.0 GHz	67.8 dB
10.0 GHz	67.6 dB
14.0 GHz	69.9 dB
18.0 GHz	68.0 dB

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A2-SSH



## SUMMARY TEST DATA

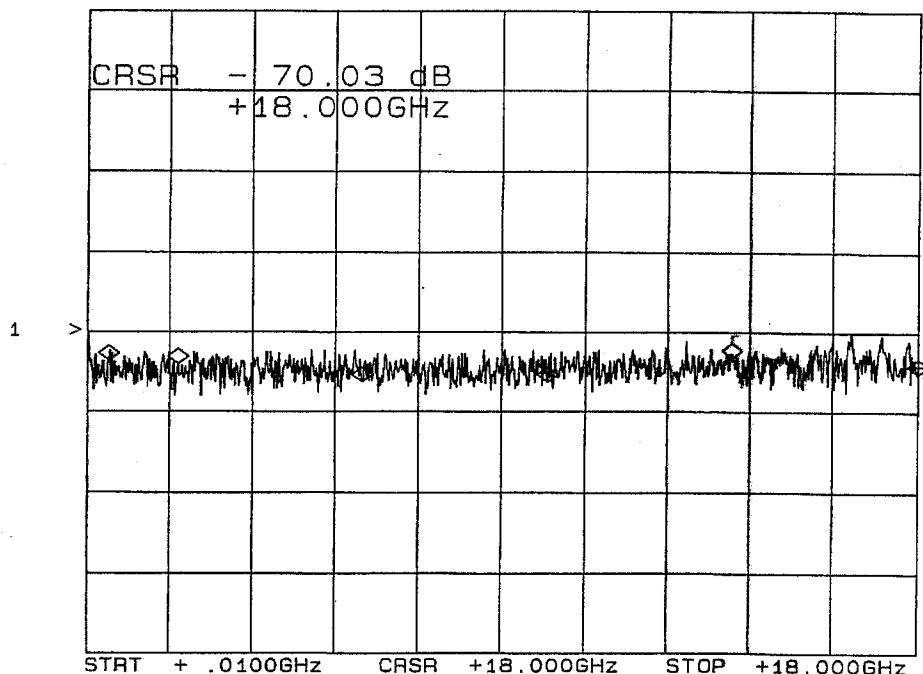
**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @ +51.2mA; -5vdc @ -45.8mA

### ISOLATION\*

(AS MEASURED ON A SCALAR NETWORK ANALYZER)

J8-J4

CH1: A -M - /0.03 dB  
 20.0 dB/ REF - 60.00 dB



\*J8: INPUT ARM

FREQUENCY	ISOLATION
500 MHz	67.0 dB
2.0 GHz	67.7 dB
6.0 GHz	72.6 dB
10.0 GHz	72.6 dB
14.0 GHz	66.2 dB
18.0 GHz	70.0 dB

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A3-SSH



## SUMMARY TEST DATA

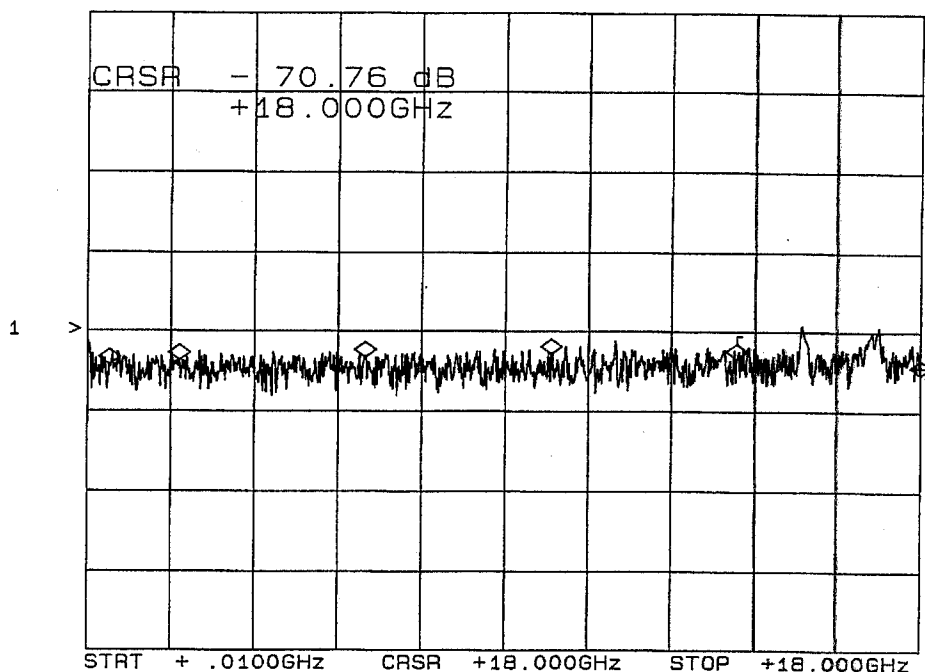
**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @ +51.2mA; -5vdc @ -45.8mA

### ISOLATION\*

(AS MEASURED ON A SCALAR NETWORK ANALYZER)

J8-J6

CH1: A -M - 70.76 dB  
 20.0 dB/ REF - 60.00 dB



\*J8: INPUT ARM

FREQUENCY	ISOLATION
500 MHz	68.2 dB
2.0 GHz	67.2 dB
6.0 GHz	66.2 dB
10.0 GHz	65.6 dB
14.0 GHz	66.7 dB
18.0 GHz	70.7 dB

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A4-SSH



**ISOLATION  
DATA AND PLOTS  
FROM  
60 MHz TO 2 GHz  
AS  
MEASURED  
ON A SCALAR NETWORK**

**ANALYZER  
(NOISE FLOOR OF SCALAR NETWORK ANALYZER IS -70 dB)**

**ON A  
SP3T**

**RADIAL SOLID STATE SWITCH  
(SURFACE MOUNTABLE)**

**AMC MODEL No:  
SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
(Serial Number: 3MS908274)**

**REPORTED AND PREPARED  
BY  
RENE AFABLE**

**AUGUST 27, 1999**



## SUMMARY TEST DATA

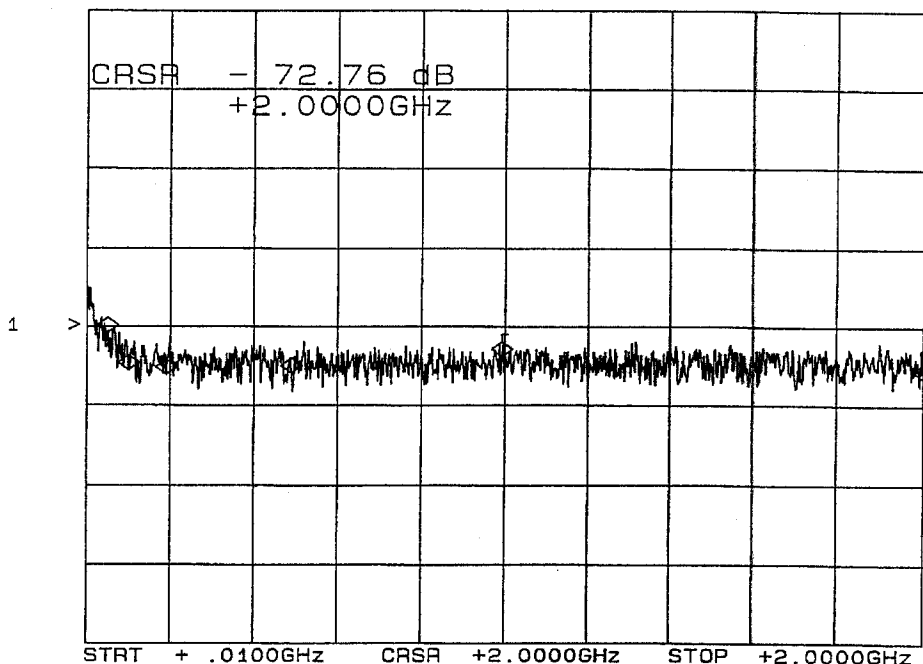
**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @ +51.2mA; -5vdc @ -45.8mA

### ISOLATION\*

(AS MEASURED ON A SCALAR NETWORK ANALYZER)

J8-J2

CH1: A -M - 72.76 dB  
 20.0 dB/ REF - 60.00 dB



\*J8: INPUT ARM

FREQUENCY	ISOLATION
60 MHz	61.4 dB
110 MHz	71.0 dB
200 MHz	72.0 dB
500 MHz	71.9 dB
1 GHz	67.6 dB
2 GHz	72.7 dB

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A6-SSH



### SUMMARY TEST DATA

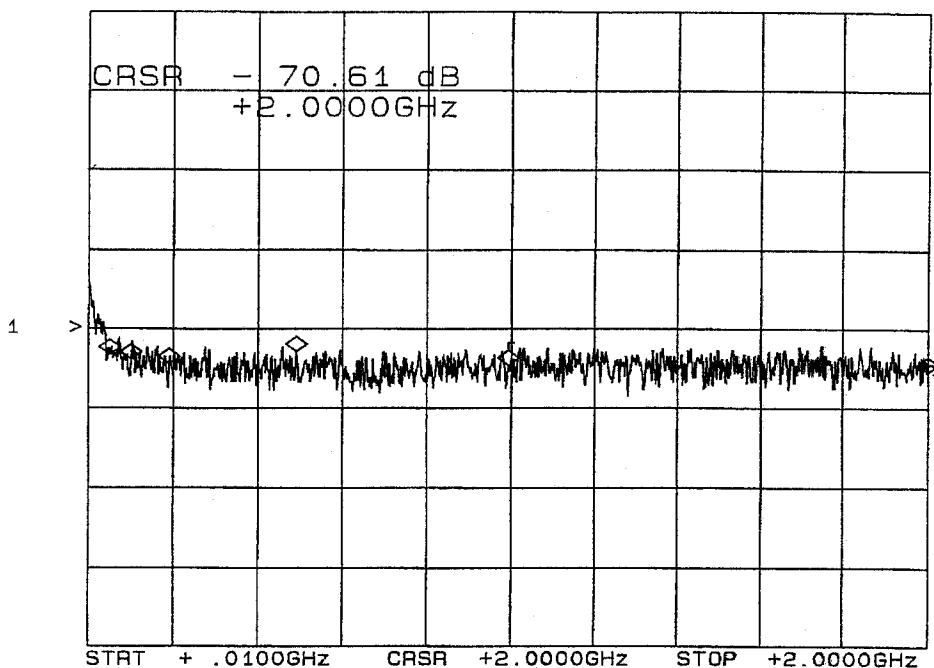
**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @ +51.2mA; -5vdc @ -45.8mA

#### ISOLATION\*

(AS MEASURED ON A SCALAR NETWORK ANALYZER)

J8-J4

CH1: A -M - 70.61 dB  
 20.0 dB/ REF - 60.00 dB



\*J8: INPUT ARM

FREQUENCY	ISOLATION
60 MHz	66.5 dB
110 MHz	67.5 dB
200 MHz	68.6 dB
500 MHz	65.6 dB
1 GHz	68.9 dB
2 GHz	70.6 dB

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A7-SSH



## SUMMARY TEST DATA

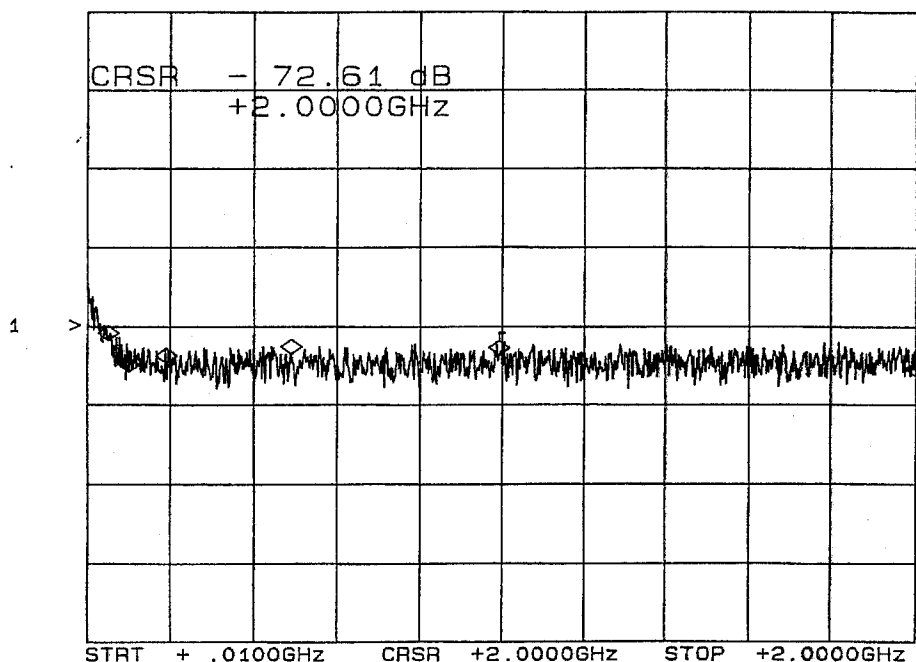
**MODEL NUMBER** : SWN-1140-3DT OPTIONS 205F, AGAR1PD, SSH  
**SERIAL NUMBER** : 3MS908274  
**ENGINEER** : RENE AFABLE  
**VOLTAGE & CURRENT DRAW** : +5vdc: @ +51.2mA; -5vdc @ -45.8mA

### ISOLATION\*

(AS MEASURED ON A SCALAR NETWORK ANALYZER)

J8-J6

CH1: A -M - 72.61 dB  
20.0 dB/ REF - 60.00 dB



\*J8: INPUT ARM

FREQUENCY	ISOLATION
60 MHz	63.4 dB
110 MHz	71.2 dB
200 MHz	68.9 dB
500 MHz	66.6 dB
1 GHz	66.9 dB
2 GHz	72.6 dB

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A8-SSH