



**TEST REPORT**

**ON**

**11.8 TO 18.2 GHz**

**SINGLE POLE TWO THROW**

**REFLECTIVE SWITCH MODULE**

**AMC MODEL No:**

**SWN-1118-2DR-H25002**

**Serial Numbers: 2MS205354AND 2MS205355**

**DESIGNED  
BY  
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**TESTED  
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**REPORTED  
BY  
E. Elder**

**April 20, 2005**

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**ISO9001 : 2000 CERTIFIED**

## TABLE OF CONTENTS

● PRODUCT DESCRIPTION AND ELECTRICAL SPECIFICATIONS	PAGE 3
● PRODUCT FEATURE AND ENVIRONMENTAL SPECIFICATIONS	PAGE 4
● OUTLINE DRAWING	PAGE 5
● FUNCTIONAL SCHEMATIC	PAGE 6
● TEST DATA ON SWN-1118-2DR-H25002 SERIAL NUMBERS 2MS205354 AND 2MS205355	PAGE 7
● TEST DATA FOR SWN-1118-2DR-H25002 SERIAL NUMBER 2MS205354	PAGE 8
● TEST DATA FOR SWN-1118-2DR-H25002 SERIAL NUMBER 2MS205355	PAGE 9

## SINGLE POLE TWO THROW REFLECTIVE SWITCH MODULE AMC MODEL No: SWN-1118-2DR-H25002

### FEATURES:

- **11.8 TO 18.2 GHz FREQUENCY RANGE**
- **HIGH POWER CAPABILITIES**
- **LOW INSERTION LOSS**



### SPECIFICATIONS:

- FREQUENCY : 11.8 TO 18.2 GHz
- INSERTION LOSS : 2.1 dB
- ISOLATION : 40 dB
- VSWR : ALL RF PORTS: 2.0:1
- SWITCHING SPEED : 1 uS
- SWITCHING RATE : 200 KHz
- POWER INPUT : AVERAGE: 80 W  
: PEAK: 2000 W
- LOGIC : RS-422
- POWER SUPPLY : +5V @ 300 mA MAXIMUM  
: -50V @ 20 mA MAXIMUM

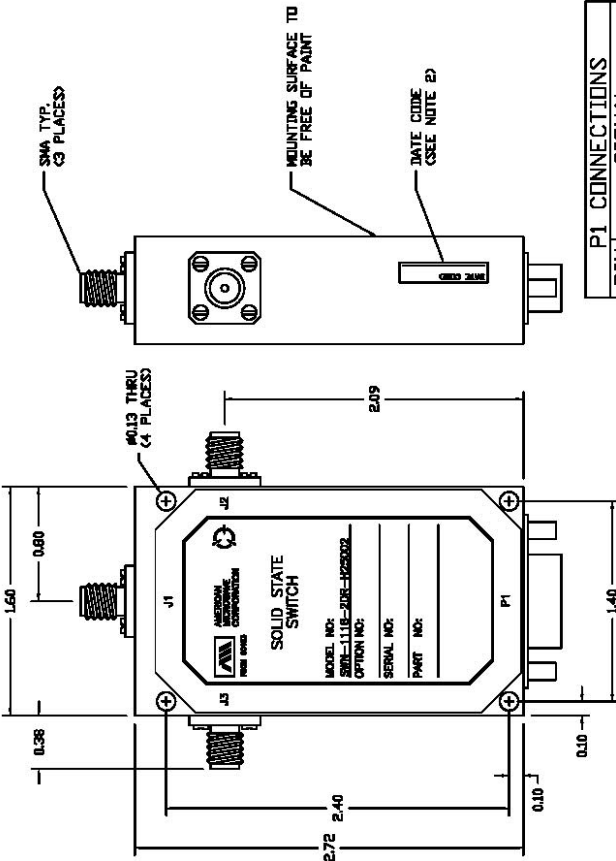
## PRODUCT FEATURE

**SPECIFICATIONS:**  
 AMC MODEL NUMBER SWN-1118-2DR-H25002 IS A SINGLE POLE DOUBLE THROW, HIGH POWER, 80 WATT AVERAGE, 2000 WATT PEAK SOLID STATE REFLECTIVE SWITCH WITH LOW INSERTION LOSS.

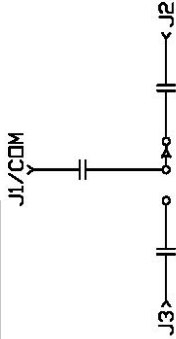
- FREQUENCY: ..... 11.8 GHz TO 18.2 GHz
- INSERTION LOSS: ..... 2.1 dB
- ISOLATION: ..... 40 dB
- VSWR: ..... ALL RF PORTS: 2.0:1
- SWITCHING SPEED: ..... 1.0 us
- SWITCHING RATE: ..... 200 KHz
- POWER INPUT: ..... AVERAGE: 80 WATTS  
 PEAK: 2000 WATTS
- LOGIC: ..... RS - 422
- CONTROL: ..... SEE LOGIC TABLE
- POWER SUPPLY: ..... +5V @ 300 mA MAXIMUM  
 -50V @ 20 mA MAXIMUM

**REVISIONS**

REV.	DESCRIPTION	DATE	APPROVED
001	ORIGINAL JOB# 110776E-2	10/18/01	



**BLOCK DIAGRAM:**



**LOGIC TABLE:**

OUTPUT	LOGIC +	LOGIC -	J2 SENSE	J3 SENSE
J1 - J2	0	1	1	0
J1 - J3	1	0	0	1

**NOTES:**

1. FINISH: RF HOUSING: BLACK PAINT
2. IDENTIFY 'AW' MIL-STD-130

**ENVIRONMENTAL RATINGS:**

- TEMPERATURE: ..... -20C TO +60C (OPERATING)  
 -65C TO +125C (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

**P1 CONNECTIONS**

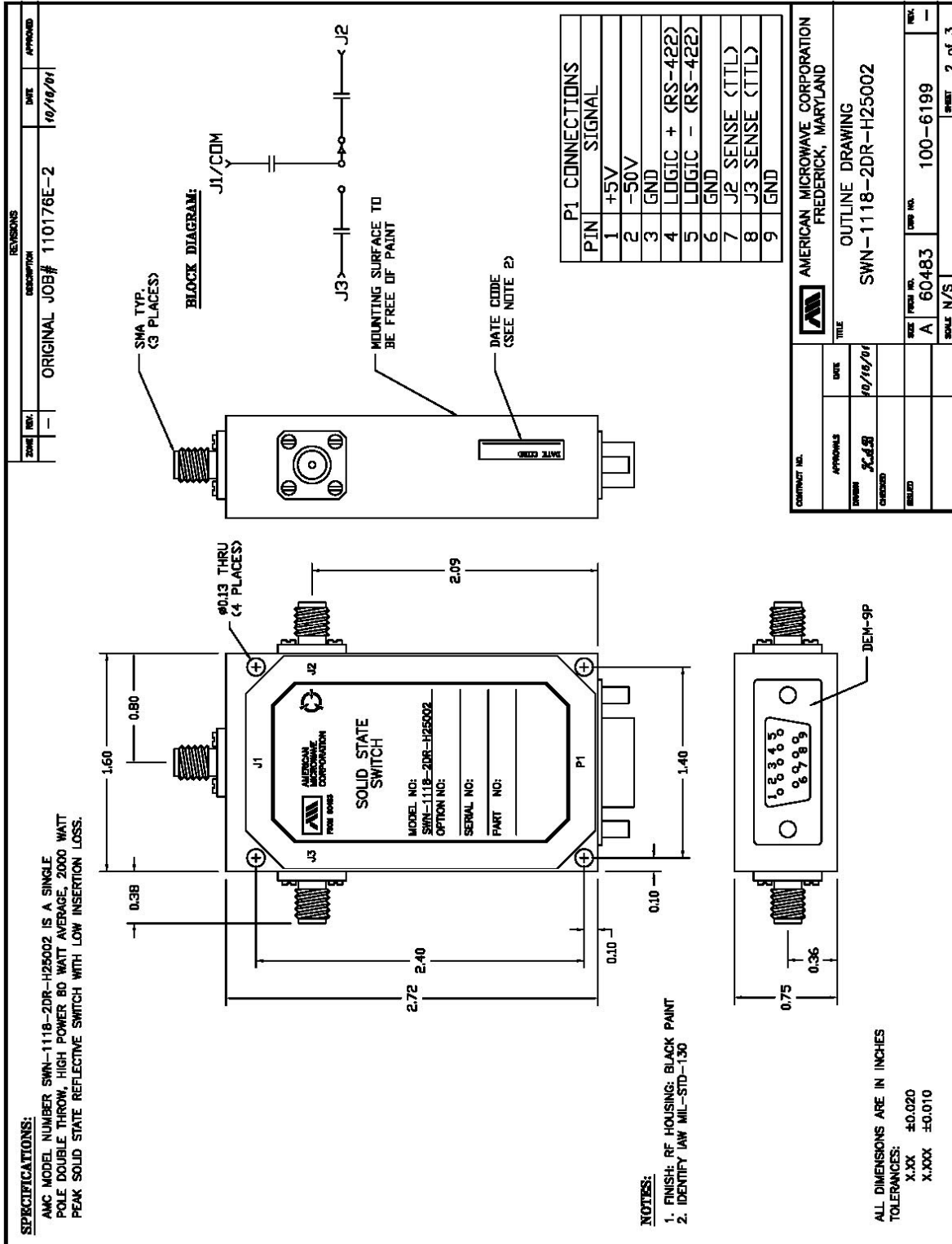
PIN	SIGNAL
1	+5V
2	-50V
3	GND
4	LOGIC + (RS-422)
5	LOGIC - (RS-422)
6	GND
7	J2 SENSE (TTL)
8	J3 SENSE (TTL)
9	GND

**AMERICAN MICROWAVE CORPORATION**  
 FREDERICK, MARYLAND

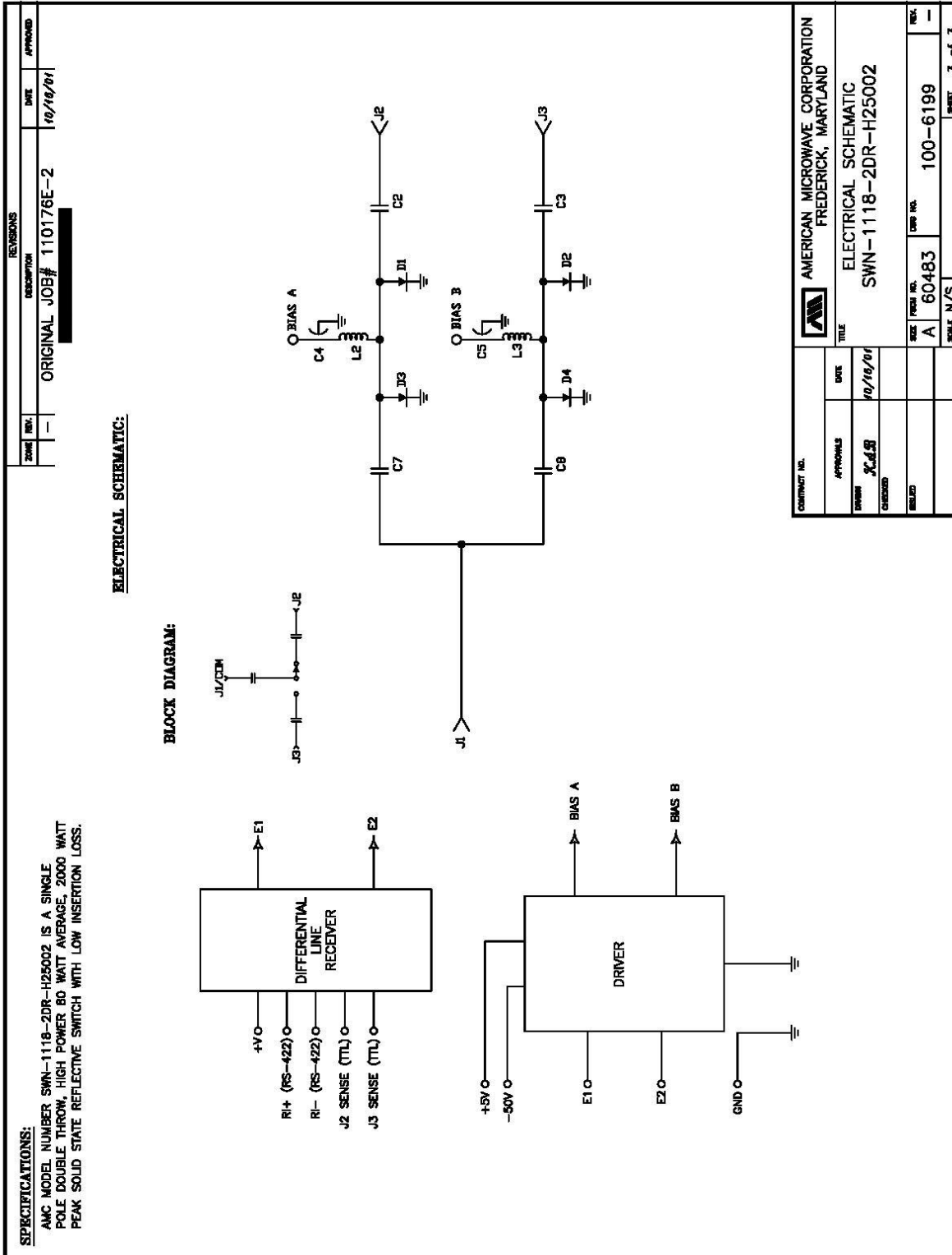
**PRODUCT FEATURE**  
 SWN-1118-2DR-H25002

DATE: 10/18/01  
 DRAWN: J.C.B.  
 CHECKED: [Signature]  
 SCALE: NYS  
 SHEET: 1 of 3

**OUTLINE DRAWING**



## FUNCTIONAL SCHEMATIC



## FINAL TEST DATA

FINAL TEST DATA SHEETS

FOR

AMC MODEL NUMBER

# SWN-1118-2DR-H25002

Serial Numbers:

**2MS205354 AND 2MS205355**





### FINAL TEST DATA

**AMC MODEL NO: SWN-1118-2DR-H25002, SERIAL NUMBER: 2MS205354**

FORMS: 233-SW-DTA



AMERICAN MICROWAVE CORPORATION  
7311-G GROVE RD., FREDERICK MD 21704  
TEL: 301-662-4700 FAX: 301-662-4938

DATE: 5/18/02

FINAL TEST DATA  
ON  
MICROWAVE SWITCH

CUSTOMER: EG&G	TECHNICIAN: <u>R Alford</u>
JOB NO: 110776E - 2	
MODEL NO: SWN-1118-2DR-H25002	OPTION NO: _____
SERIAL NO: <u>2MS205354</u>	SPECIFICATION: _____
CURRENT DRAW: + 5 VDC @ <u>82</u> mA; - 50 VDC @ <u>8</u> mA	FREQUENCY RANGE: 11.8 - 18.2 GHz

INSERTION LOSS (WORST CASE)	RETURN LOSS (WORST CASE)					
	INPUT dB	INPUT VSWR	OUTPUT ON db	OUTPUT ON VSWR	OUTPUT OFF db	OUTPUT OFF VSWR
J1 - J2 1.87 dB @ 11.8 - 18.2 GHz	12.12 dB	1.0	11.35 dB	1.0	/	/
J1 - J3 2.06 dB @ 11.8 - 18.2 GHz	12.72 dB	1.0	12.23 dB	1.0	/	/
dB @ GHz	dB	1.0	dB	1.0	dB	1.0
dB @ GHz	dB	1.0	dB	1.0	dB	1.0
dB @ GHz	dB	1.0	dB	1.0	dB	1.0
dB @ GHz	dB	1.0	dB	1.0	dB	1.0
dB @ GHz	dB	1.0	dB	1.0	dB	1.0
dB @ GHz	dB	1.0	dB	1.0	dB	1.0
dB @ GHz	dB	1.0	dB	1.0	dB	1.0
dB @ GHz	dB	1.0	dB	1.0	dB	1.0
dB @ GHz	dB	1.0	dB	1.0	dB	1.0
dB @ GHz	dB	1.0	dB	1.0	dB	1.0

ISOLATION	SWITCHING SPEED			
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME
J1 - J2 50 dB @ 11.8 - 18.2 GHz	90 nS	nS	70 nS	nS
J1 - J3 51 dB @ 11.8 - 18.2 GHz	85 nS	nS	75 nS	nS
dB @ GHz	nS	nS	nS	nS
dB @ GHz	nS	nS	nS	nS
dB @ GHz	nS	nS	nS	nS
dB @ GHz	nS	nS	nS	nS
dB @ GHz	nS	nS	nS	nS
dB @ GHz	nS	nS	nS	nS
dB @ GHz	nS	nS	nS	nS

NOTE: Any additional test data on back

TESTED ON: HP 8722B

INS BY: Q1

DATED: 7/10/02

QA/QC APPROVAL: \_\_\_\_\_



## FINAL TEST DATA

AMC MODEL NO: SWN-1118-2DR-H25002, SERIAL NUMBER: 2MS205355

FORMS: 233-SW-DTA



AMERICAN MICROWAVE CORPORATION  
 7311-G GROVE RD., FREDERICK MD 21704  
 TEL: 301-662-4700 FAX: 301-662-4938

DATE: 5/18/02

FINAL TEST DATA  
 ON  
 MICROWAVE SWITCH

CUSTOMER: <u>EG&amp;G</u>	TECHNICIAN: <u>R. Nofke</u>
JOB NO: <u>110776E - 2</u>	OPTION NO: _____
MODEL NO: <u>SWN-1118-2DR-H25002</u>	SPECIFICATION: _____
SERIAL NO: <u>2MS205355</u>	FREQUENCY RANGE: <u>11.8 - 18.2 GHz</u>
CURRENT DRAW: <u>+ 5 VDC @ 65 mA; - 50 VDC @ 7 mA</u>	

INSERTION LOSS (WORST CASE)	RETURN LOSS (WORST CASE)					
	INPUT dB	INPUT VSWR	OUTPUT ON dB	OUTPUT ON VSWR	OUTPUT OFF dB	OUTPUT OFF VSWR
J1 - J2 <u>2.03</u> dB @ 11.8 - 18.2 GHz	<u>9.86</u>	<u>1.95</u> : 1	<u>11.45</u>	dB:1 : 1	/	dB:1 / : 1
J1 - J3 <u>2.06</u> dB @ 11.8 - 18.2 GHz	<u>11.25</u>	dB:1 : 1	<u>10.96</u>	dB:1 : 1	/	dB:1 / : 1
dB @ GHz	dB:1 : 1		dB:1 : 1	dB:1 : 1	dB:1 : 1	dB:1 : 1
dB @ GHz	dB:1 : 1		dB:1 : 1	dB:1 : 1	dB:1 : 1	dB:1 : 1
dB @ GHz	dB:1 : 1		dB:1 : 1	dB:1 : 1	dB:1 : 1	dB:1 : 1
dB @ GHz	dB:1 : 1		dB:1 : 1	dB:1 : 1	dB:1 : 1	dB:1 : 1
dB @ GHz	dB:1 : 1		dB:1 : 1	dB:1 : 1	dB:1 : 1	dB:1 : 1
dB @ GHz	dB:1 : 1		dB:1 : 1	dB:1 : 1	dB:1 : 1	dB:1 : 1
dB @ GHz	dB:1 : 1		dB:1 : 1	dB:1 : 1	dB:1 : 1	dB:1 : 1
dB @ GHz	dB:1 : 1		dB:1 : 1	dB:1 : 1	dB:1 : 1	dB:1 : 1
dB @ GHz	dB:1 : 1		dB:1 : 1	dB:1 : 1	dB:1 : 1	dB:1 : 1
dB @ GHz	dB:1 : 1		dB:1 : 1	dB:1 : 1	dB:1 : 1	dB:1 : 1
dB @ GHz	dB:1 : 1		dB:1 : 1	dB:1 : 1	dB:1 : 1	dB:1 : 1
ISOLATION	SWITCHING SPEED					
	DELAY ON	RISE TIME	DELAY OFF	FALL TIME		
J1 - J2 <u>45</u> dB @ 11.8 - 18.2 GHz	<u>120</u> nS	/	<u>185</u> nS	/		
J1 - J3 <u>48</u> dB @ 11.8 - 18.2 GHz	<u>100</u> nS	/	<u>220</u> nS	/		
dB @ GHz	nS	nS	nS	nS		
dB @ GHz	nS	nS	nS	nS		
dB @ GHz	nS	nS	nS	nS		
dB @ GHz	nS	nS	nS	nS		
dB @ GHz	nS	nS	nS	nS		
dB @ GHz	nS	nS	nS	nS		
dB @ GHz	nS	nS	nS	nS		
dB @ GHz	nS	nS	nS	nS		
dB @ GHz	nS	nS	nS	nS		

NOTE: Any additional test data on back

TESTED ON: HP 8722CS

QA/QC APPROVAL: \_\_\_\_\_



DATED: 5/18/02