



TEST REPORT
ON
2 TO 18 GHz
SINGLE POLE TWO THROW
REFLECTIVE SWITCH MODULE

AMC MODEL No:
SWN-RRA-2DR-LSI
OPTION NG, DB

Serial Numbers: 2MS503028 THRU 2MS503032

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May 25, 2005

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ISO9001 : 2000 CERTIFIED

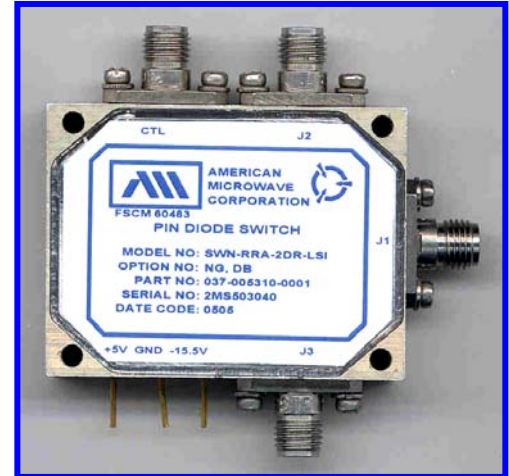
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SINGLE POLE TWO THROW REFLECTIVE SWITCH MODULE AMC MODEL No: SWN-RRA-2DR-LSI OPTIONS NG, DB

FEATURES:

- **2 TO 18 GHz FREQUENCY RANGE**
- **LOW INSERTION LOSS**
- **HIGH ISOLATION**
- **FAST RESPONSE TIME**



SPECIFICATIONS:

- | | | |
|--|---|--|
| ● FREQUENCY | : | 2 TO 18 GHz |
| ● INSERTION LOSS | : | 3.5 dB MAXIMUM |
| ● INSERTION LOSS FLATNESS OVER 500 MHz | : | NO MORE THAN ± 1.5 dB IN ANY 500 MHz BAND |
| ● ISOLATION | : | 60 dB MINIMUM |
| ● VSWR | : | 2.0:1 |
| ● RESPONSE TIME | : | 350 nS MAXIMUM |
| ● POWER INPUT | : | +30 dBm MINIMUM |
| ● SURVIVAL POWERS | : | 33 dBm CW, 40 dB PEAK 1 μ S |
| ● VIDEO TRANSIENTS | : | 150 mV PEAK IN 300 MHz BW |
| ● SPECTRAL ACTIVITY | : | -70 dBm MAXIMUM |
| ● CONTROL | : | TTL LOGIC "0" = J1-J2 ON |
| | : | TTL LOGIC "1" = J1-J3 ON |
| ● DIGITAL LOGIC INTERFACE | : | THE DIGITAL INPUT SIGNAL TO THE RF SWITCH IS 3.3 VOLT CMOS LOGIC |
| ● POWER SUPPLY | : | +5V (+0.2V/-0.3V) @ 150 mA MAXIMUM |
| | : | -15.5V (± 1.56 V) @ 75 mA MAXIMUM |
| ● CONNECTORS | | |
| RF | : | SMA FEMALE |
| CONTROL | : | SMA FEMALE |
| ● SIZE | : | 1.75" (L) x 1.32" (W) x 0.49" (H) |

PRODUCT FEATURE

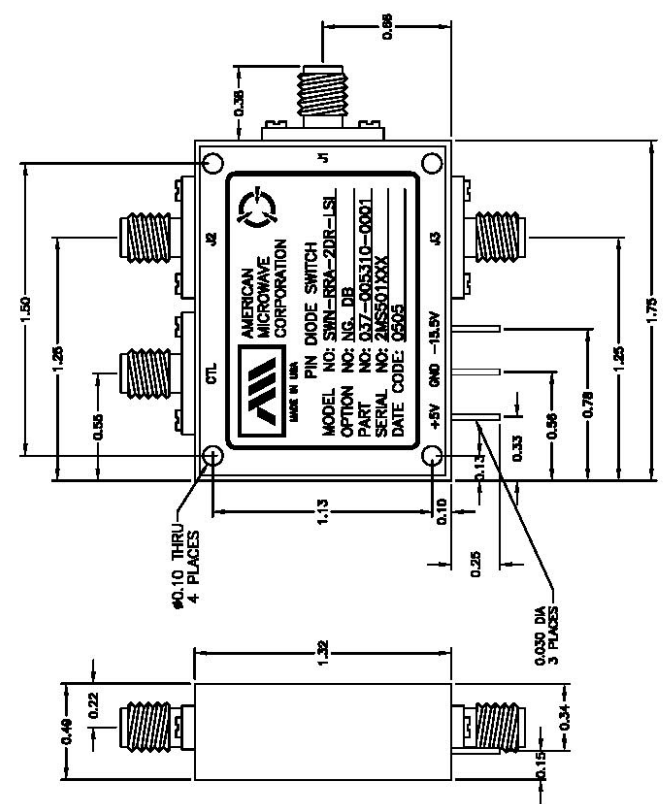
REV	DESCRIPTION	DATE	APPROVED
1	ORIGINAL RELEASE JOB# 411267E-1	3/11/08	

DESCRIPTION
 AMC MODEL SWN-RRA-2DR-LSI OPTION: NG, DB IS A HERMETICALLY SEALED REFLECTIVE SINGLE POLE TWO THROW SWITCH DESIGNED TO OPERATE OVER THE FULL 2 TO 18 GHz FREQUENCY RANGE.

SPECIFICATIONS

- FREQUENCY RANGE: 2 TO 18 GHz
- INSERTION LOSS: 3.5 dB MAXIMUM
- INSERTION LOSS FLATNESS OVER 500 MHz: NO MORE THAN ±1.5 dB IN ANY 500 MHz BAND
- ISOLATION: 60 dB MINIMUM
- VSWR: 2.0:1 MAXIMUM
- RESPONSE TIME: 350 nSec MAXIMUM
- POWER INPUT: +30 dBm MINIMUM
- SURVIVAL POWER: 33 dBm CW, 40 dBm PEAK 1 μS
- VIDEO TRANSIENTS: 150 mV PEAK IN A 300MHz BW
- SPECTRAL ACTIVITY: -70 dBm MAXIMUM
- CONTROL: TTL LOGIC "0" = J1-J2 ON
TTL LOGIC "1" = J1-J3 ON
- DIGITAL LOGIC INTERFACE: THE DIGITAL INPUT SIGNAL TO THE RF SWITCH IS 3.3-VOLT CHOS LOGIC (SEE TABLE 1 BELOW)
- POWER SUPPLY: +5V (+0.2V/-0.3V) @ 150 mA MAXIMUM
-15.5V (±1.56V) @ 75 mA MAXIMUM
- CONNECTORS: SMA FEMALE
- RF: SMA FEMALE
- CONTROL: SMA FEMALE
- SIZE: 1.75" (L) x 1.32" (W) x 0.49" (H)

NOTE: FOR ADDITIONAL INFORMATION REFER TO CUSTOMER SCD NUMBER 093-013436



OPTIONS:

- NG: CUSTOMER SPECIFICATIONS (SCD 093-013436)
- DB: CUSTOMER SPECIFICATIONS (SCD 093-013436)

ENVIRONMENTAL RATINGS:

- TEMPERATURE: -55°C TO +65°C (OPERATING)
-85°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: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE
 NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

PARAMETER	MINIMUM	TYPICAL	MAXIMUM	UNITS
LOGIC HIGH VOLTAGE, V _H	2	3.5	V	
LOGIC LOW VOLTAGE, V _L	-0.5	0.8	V	
LOGIC HIGH CURRENT @ V _H (NOTE 1)	3	mA		
LOGIC LOW CURRENT @ V _L (NOTE 1)	-3	mA		
LOAD CAPACITANCE (NOTE 2)	1	2	10	PF
RISE TIME (NOTE 3)	1	2	10	NS
FALL TIME (NOTE 3)	1	2	10	NS

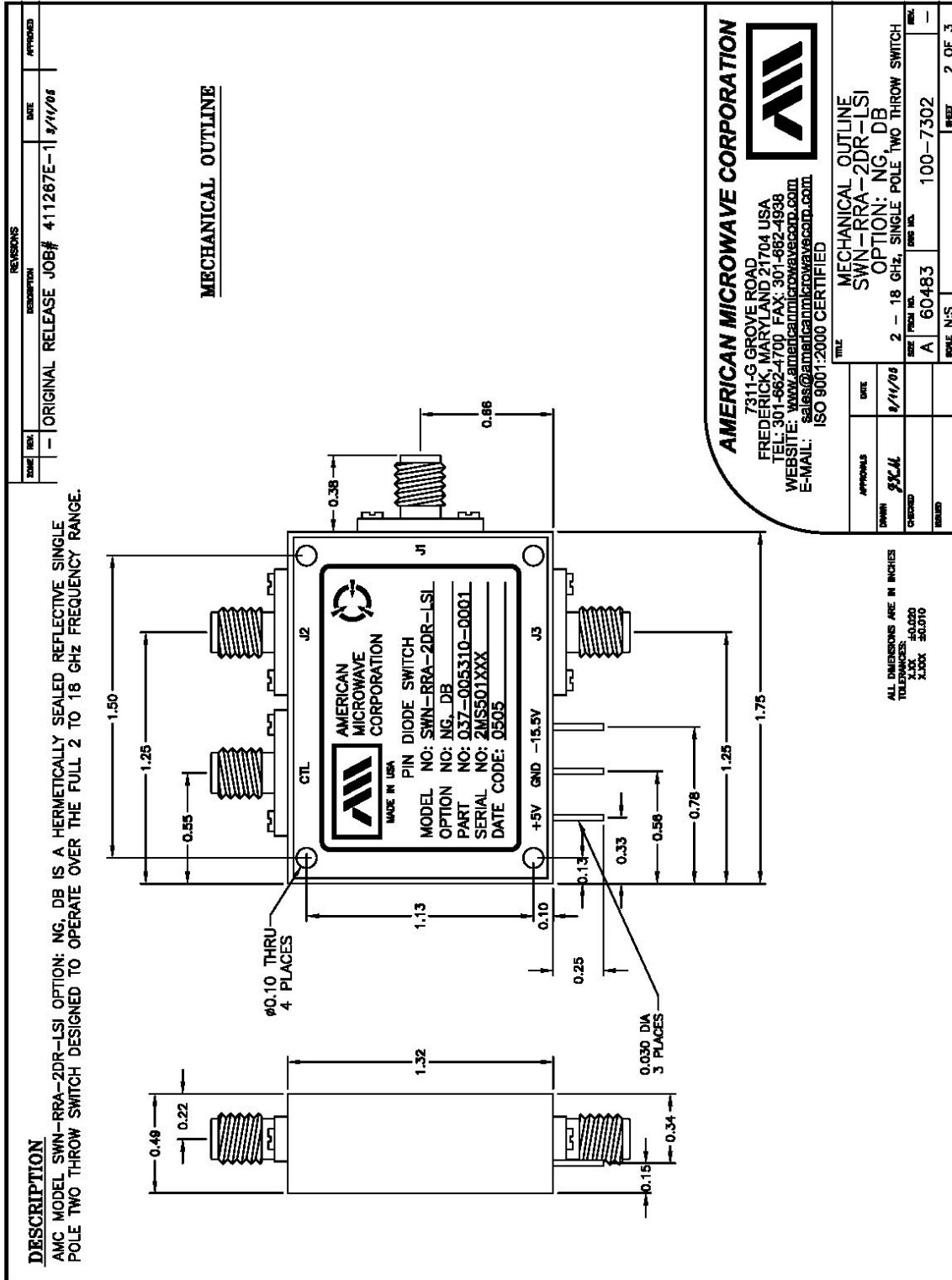
NOTE 1: THE MAXIMUM CURRENT INTO ANY ON INPUT IS ± 300 μA
 NOTE 2: THE MAXIMUM CAPACITANCE FOR ANY ONE INPUT IS 4 pF.
 NOTE 3: INTO THE MAXIMUM SPECIFIED LOAD CAPACITANCE.

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 ISO 9001:2000 CERTIFIED

APPROVALS: *[Signature]*
 DRAWN: *[Signature]*
 CHECKED: *[Signature]*
 ENDED: *[Signature]*

PRODUCT FEATURE
 SWN-RRA-2DR-LSI
 OPTION: NG, DB
 SIZE FROM INCH: 2 - 18 GHz, SINGLE POLE TWO THROW SWITCH
 DRAW NO: 100-7302
 SHEET N/S: 1 OF 3

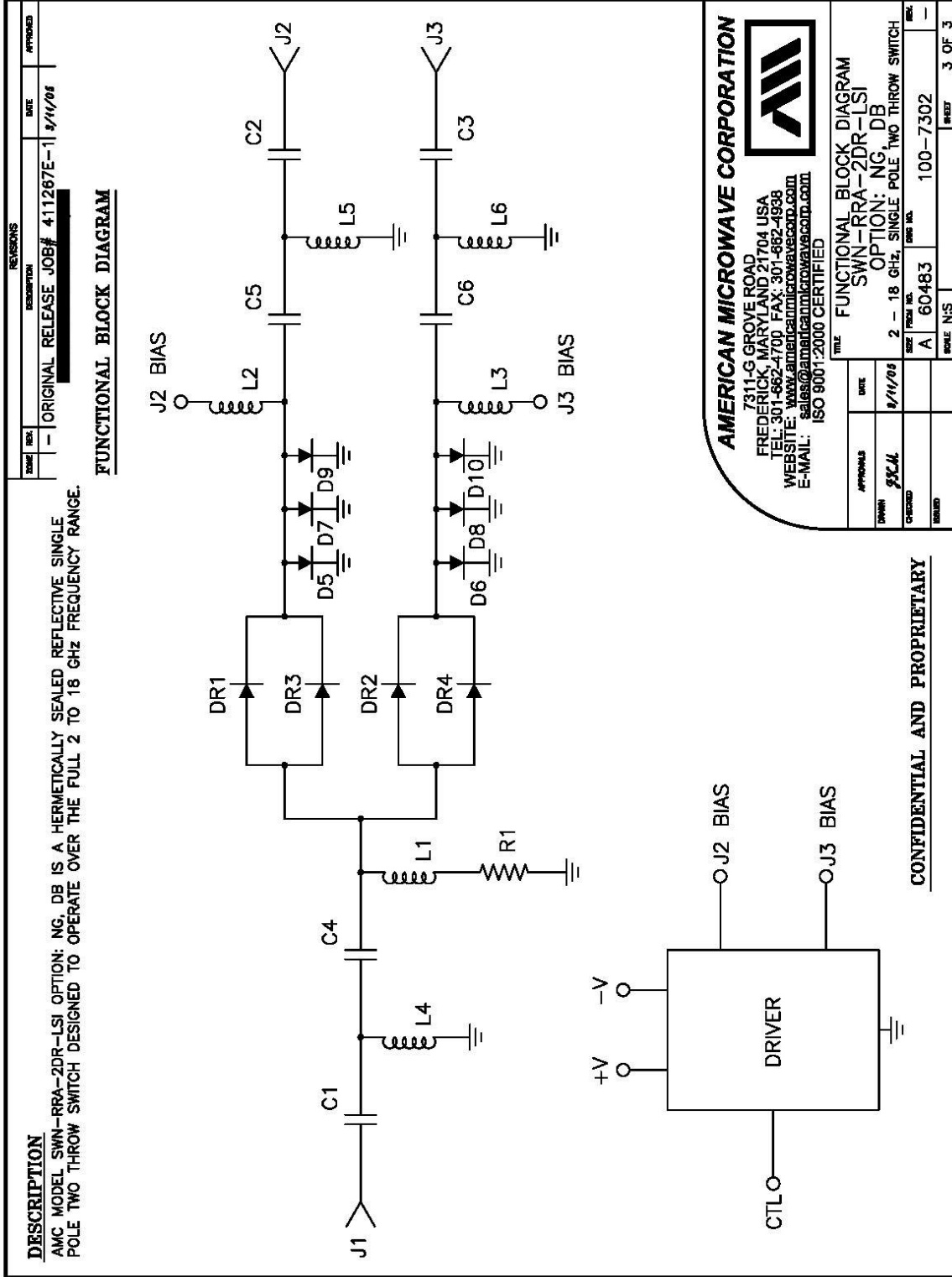
OUTLINE DRAWING



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FUNCTIONAL SCHEMATIC



FINAL TEST DATA

FINAL TEST DATA SHEETS

FOR

AMC MODEL NUMBER

SWN-RRA-2DR-LSI
OPTION NG, DB

Serial Numbers:

2MS503028 THRU 2MS503032

FINAL TEST DATA

AMC MODEL NO: SWN-RRA-2DR-LSI OPTIONS NG, DB, SERIAL NUMBER: 2MS503028

Para.	Parameter	Requirement	Tolerance	Measured Value	Pass/Fail
4.1	Electrical Interfaces				
		Logic 0 J1 to J2 IL mode and J1 to J3 Isolation Mode	-0.5 to 0.8 Volts	0 Vdc	Pass
		Logic 1 J1 to J3 IL mode and J1 to J2 Isolation Mode	2.0 to 3.5 Volts	3 Vdc	Pass
4.2	Response Time				
	J1-J2	350 nSec (from 50% point of leading edge of control input to within 1.0 dB of the low insertions loss state for the selected path)	Max.	150 nS	Pass
	J1-J3	350 nSec (from 50% point of leading edge of control input to within 1.0 dB of the low insertions loss state for the selected path)	Max.	160 nS	Pass
4.3	Video Spike Leakage				
	J1	150 mV Peak @ 300 Mhz bandwidth	Max	25 mV p	Pass
	J2	150 mV Peak @ 300 Mhz bandwidth	Max	25 mV p	Pass
	J3	150 mV Peak @ 300 Mhz bandwidth	Max	10 mV p	Pass
4.4	Spectral Activity				
	J1	-70 dBm Maximum 2 to 18 GHz	Max	-71 dBm	Pass
	J2	-70 dBm Maximum 2 to 18 GHz	Max	-71 dBm	Pass
	J3	-70 dBm Maximum 2 to 18 GHz	Max	-71 dBm	Pass
5.0	Input Power Requirements				
	- 15.5 Vdc	-15 VDC ± 1.56 VDC	75 mA Max.	50 mA	Pass



Para.	Parameter	Requirement	Tolerance	Measured Value	Pass/Fail
	+ 5 VDC	+5 VDC +0.2VDC/-0.3VDC	150 mA Max.	73 mA	Pass
6.2.3.1	Insertion Loss				
	J1-J2	3.5 dB (2.0 to 18.0 GHz)	Max.	2.18 dB	Pass
	J1-J3	3.5 dB (2.0 to 18.0 GHz)	Max.	2.00 dB	Pass
6.2.3.2	Insertion Loss Flatness				
	J1-J2	±1.5 dB in any 500 MHz Band	±1.5 dB	±0.3 dB	Pass
	J1-J3	±1.5 dB in any 500 MHz Band	±1.5 dB	±0.3 dB	Pass
6.2.4	Input VSWR (Ref to 50 Ohms)				
	J1-J2	2.0:1	Max.	1.86:1 dB	Pass
	J1-J3	2.0:1	Max.	1.84:1 dB	Pass
6.2.5	Isolation				
	J1-J2	60 dB (2.0 to 18.0 GHz)	Min.	82 dB	Pass
	J1-J3	60 dB (2.0 to 18.0 GHz)	Min.	81 dB	Pass

FINAL TEST DATA

AMC MODEL NO: SWN-RRA-2DR-LSI OPTIONS NG, DB, SERIAL NUMBER: 2MS503029

Para.	Parameter	Requirement	Tolerance	Measured Value	Pass/Fail
4.1	Electrical Interfaces				
		Logic 0 J1 to J2 IL mode and J1 to J3 Isolation Mode	-0.5 to 0.8 Volts	0 Vdc	Pass
		Logic 1 J1 to J3 IL mode and J1 to J2 Isolation Mode	2.0 to 3.5 Volts	3 Vdc	Pass
4.2	Response Time				
	J1-J2	350 nSec (from 50% point of leading edge of control input to within 1.0 dB of the low insertions loss state for the selected path)	Max.	170 nS	Pass
	J1-J3	350 nSec (from 50% point of leading edge of control input to within 1.0 dB of the low insertions loss state for the selected path)	Max.	160 nS	Pass
4.3	Video Spike Leakage				
	J1	150 mV Peak @ 300 Mhz bandwidth	Max	20 mV p	Pass
	J2	150 mV Peak @ 300 Mhz bandwidth	Max	22 mV p	Pass
	J3	150 mV Peak @ 300 Mhz bandwidth	Max	18 mV p	Pass
4.4	Spectral Activity				
	J1	-70 dBm Maximum 2 to 18 GHz	Max	-71 dBm	Pass
	J2	-70 dBm Maximum 2 to 18 GHz	Max	-71 dBm	Pass
	J3	-70 dBm Maximum 2 to 18 GHz	Max	-71 dBm	Pass
5.0	Input Power Requirements				

Para.	Parameter	Requirement	Tolerance	Measured Value	Pass/Fail
	- 15.5 Vdc	-15 VDC ± 1.56 VDC	75 mA Max.	57 mA	Pass
	+ 5 VDC	+5 VDC +0.2VDC/-0.3VDC	150 mA Max.	67 mA	Pass
6.2.3.1	Insertion Loss				
	J1-J2	3.5 dB (2.0 to 18.0 GHz)	Max.	2.50 dB	Pass
	J1-J3	3.5 dB (2.0 to 18.0 GHz)	Max.	2.46 dB	Pass
6.2.3.2	Insertion Loss Flatness				
	J1-J2	±1.5 dB in any 500 MHz Band	±1.5 dB	±0.3 dB	Pass
	J1-J3	±1.5 dB in any 500 MHz Band	±1.5 dB	±0.3 dB	Pass
6.2.4	Input VSWR (Ref to 50 Ohms)				
	J1-J2	2.0:1	Max.	1.93:1 dB	Pass
	J1-J3	2.0:1	Max.	1.90:1 dB	Pass
6.2.5	Isolation				
	J1-J2	60 dB (2.0 to 18.0 GHz)	Min.	78 dB	Pass
	J1-J3	60 dB (2.0 to 18.0 GHz)	Min.	68 dB	Pass

FINAL TEST DATA

AMC MODEL NO: SWN-RRA-2DR-LSI OPTIONS NG, DB, SERIAL NUMBER: 2MS503030

Para.	Parameter	Requirement	Tolerance	Measured Value	Pass/Fail
4.1	Electrical Interfaces				
		Logic 0 J1 to J2 IL mode and J1 to J3 Isolation Mode	-0.5 to 0.8 Volts	0 Vdc	Pass
		Logic 1 J1 to J3 IL mode and J1 to J2 Isolation Mode	2.0 to 3.5 Volts	3 Vdc	Pass
4.2	Response Time				
	J1-J2	350 nSec (from 50% point of leading edge of control input to within 1.0 dB of the low insertions loss state for the selected path)	Max.	180 nS	Pass
	J1-J3	350 nSec (from 50% point of leading edge of control input to within 1.0 dB of the low insertions loss state for the selected path)	Max.	160 nS	Pass
4.3	Video Spike Leakage				
	J1	150 mV Peak @ 300 Mhz bandwidth	Max	40 mV p	Pass
	J2	150 mV Peak @ 300 Mhz bandwidth	Max	70 mV p	Pass
	J3	150 mV Peak @ 300 Mhz bandwidth	Max	30 mV p	Pass
4.4	Spectral Activity				
	J1	-70 dBm Maximum 2 to 18 GHz	Max	-71 dBm	Pass
	J2	-70 dBm Maximum 2 to 18 GHz	Max	-71 dBm	Pass
	J3	-70 dBm Maximum 2 to 18 GHz	Max	-71 dBm	Pass
5.0	Input Power Requirements				



Para.	Parameter	Requirement	Tolerance	Measured Value	Pass/Fail
	- 15.5 Vdc	-15 VDC \pm 1.56 VDC	75 mA Max.	58 mA	Pass
	+ 5 VDC	+5 VDC +0.2VDC/-0.3VDC	150 mA Max.	66 mA	Pass
6.2.3.1	Insertion Loss				
	J1-J2	3.5 dB (2.0 to 18.0 GHz)	Max.	2.18 dB	Pass
	J1-J3	3.5 dB (2.0 to 18.0 GHz)	Max.	2.01 dB	Pass
6.2.3.2	Insertion Loss Flatness				
	J1-J2	\pm 1.5 dB in any 500 MHz Band	\pm 1.5 dB	\pm 0.4 dB	Pass
	J1-J3	\pm 1.5 dB in any 500 MHz Band	\pm 1.5 dB	\pm 0.3 dB	Pass
6.2.4	Input VSWR (Ref to 50 Ohms)				
	J1-J2	2.0:1	Max.	1.98:1 dB	Pass
	J1-J3	2.0:1	Max.	1.98:1 dB	Pass
6.2.5	Isolation				
	J1-J2	60 dB (2.0 to 18.0 GHz)	Min.	76 dB	Pass
	J1-J3	60 dB (2.0 to 18.0 GHz)	Min.	76 dB	Pass

FINAL TEST DATA

AMC MODEL NO: SWN-RRA-2DR-LSI OPTIONS NG, DB, SERIAL NUMBER: 2MS503031

Para.	Parameter	Requirement	Tolerance	Measured Value	Pass/Fail
4.1	Electrical Interfaces				
		Logic 0 J1 to J2 IL mode and J1 to J3 Isolation Mode	-0.5 to 0.8 Volts	0 Vdc	Pass
		Logic 1 J1 to J3 IL mode and J1 to J2 Isolation Mode	2.0 to 3.5 Volts	3 Vdc	Pass
4.2	Response Time				
	J1-J2	350 nSec (from 50% point of leading edge of control input to within 1.0 dB of the low insertions loss state for the selected path)	Max.	160 nS	Pass
	J1-J3	350 nSec (from 50% point of leading edge of control input to within 1.0 dB of the low insertions loss state for the selected path)	Max.	160 nS	Pass
4.3	Video Spike Leakage				
	J1	150 mV Peak @ 300 Mhz bandwidth	Max	40 mV p	Pass
	J2	150 mV Peak @ 300 Mhz bandwidth	Max	70 mV p	Pass
	J3	150 mV Peak @ 300 Mhz bandwidth	Max	30 mV p	Pass
4.4	Spectral Activity				
	J1	-70 dBm Maximum 2 to 18 GHz	Max	-71 dBm	Pass
	J2	-70 dBm Maximum 2 to 18 GHz	Max	-71 dBm	Pass
	J3	-70 dBm Maximum 2 to 18 GHz	Max	-71 dBm	Pass
5.0	Input Power Requirements				
	- 15.5 Vdc	-15 VDC ± 1.56 VDC	75 mA Max.	52 mA	Pass



Para.	Parameter	Requirement	Tolerance	Measured Value	Pass/Fail
	+ 5 VDC	+5 VDC +0.2VDC/-0.3VDC	150 mA Max.	72 mA	Pass
6.2.3.1	Insertion Loss				
	J1-J2	3.5 dB (2.0 to 18.0 GHz)	Max.	2.07 dB	Pass
	J1-J3	3.5 dB (2.0 to 18.0 GHz)	Max.	2.25 dB	Pass
6.2.3.2	Insertion Loss Flatness				
	J1-J2	±1.5 dB in any 500 MHz Band	±1.5 dB	±0.3 dB	Pass
	J1-J3	±1.5 dB in any 500 MHz Band	±1.5 dB	±0.5 dB	Pass
6.2.4	Input VSWR (Ref to 50 Ohms)				
	J1-J2	2.0:1	Max.	1.73:1 dB	Pass
	J1-J3	2.0:1	Max.	1.81:1 dB	Pass
6.2.5	Isolation				
	J1-J2	60 dB (2.0 to 18.0 GHz)	Min.	73 dB	Pass
	J1-J3	60 dB (2.0 to 18.0 GHz)	Min.	74 dB	Pass

FINAL TEST DATA

AMC MODEL NO: SWN-RRA-2DR-LSI OPTIONS NG, DB, SERIAL NUMBER: 2MS503032

Para.	Parameter	Requirement	Tolerance	Measured Value	Pass/Fail
4.1	Electrical Interfaces				
		Logic 0 J1 to J2 IL mode and J1 to J3 Isolation Mode	-0.5 to 0.8 Volts	0 Vdc	Pass
		Logic 1 J1 to J3 IL mode and J1 to J2 Isolation Mode	2.0 to 3.5 Volts	3 Vdc	Pass
4.2	Response Time				
	J1-J2	350 nSec (from 50% point of leading edge of control input to within 1.0 dB of the low insertions loss state for the selected path)	Max.	180 nS	Pass
	J1-J3	350 nSec (from 50% point of leading edge of control input to within 1.0 dB of the low insertions loss state for the selected path)	Max.	160 nS	Pass
4.3	Video Spike Leakage				
	J1	150 mV Peak @ 300 Mhz bandwidth	Max	30 mV p	Pass
	J2	150 mV Peak @ 300 Mhz bandwidth	Max	25 mV p	Pass
	J3	150 mV Peak @ 300 Mhz bandwidth	Max	10 mV p	Pass
4.4	Spectral Activity				
	J1	-70 dBm Maximum 2 to 18 GHz	Max	-71 dBm	Pass
	J2	-70 dBm Maximum 2 to 18 GHz	Max	-71 dBm	Pass
	J3	-70 dBm Maximum 2 to 18 GHz	Max	-71 dBm	Pass
5.0	Input Power Requirements				



Para.	Parameter	Requirement	Tolerance	Measured Value	Pass/Fail
	- 15.5 Vdc	-15 VDC ± 1.56 VDC	75 mA Max.	58 mA	Pass
	+ 5 VDC	+5 VDC +0.2VDC/-0.3VDC	150 mA Max.	66 mA	Pass
6.2.3.1	Insertion Loss				
	J1-J2	3.5 dB (2.0 to 18.0 GHz)	Max.	2.07 dB	Pass
	J1-J3	3.5 dB (2.0 to 18.0 GHz)	Max.	2.01 dB	Pass
6.2.3.2	Insertion Loss Flatness				
	J1-J2	±1.5 dB in any 500 MHz Band	±1.5 dB	±0.3 dB	Pass
	J1-J3	±1.5 dB in any 500 MHz Band	±1.5 dB	±0.3 dB	Pass
6.2.4	Input VSWR (Ref to 50 Ohms)				
	J1-J2	2.0:1	Max.	1.76:1 dB	Pass
	J1-J3	2.0:1	Max.	1.78:1 dB	Pass
6.2.5	Isolation				
	J1-J2	60 dB (2.0 to 18.0 GHz)	Min.	70 dB	Pass
	J1-J3	60 dB (2.0 to 18.0 GHz)	Min.	68 dB	Pass

SAMPLE DATA PLOTS

SWITCHING SPEED AND VIDEO TRANSIENT PLOTS

FOR

AMC MODEL NUMBER

SWN-RRA-2DR-LSI
OPTION NG, DB

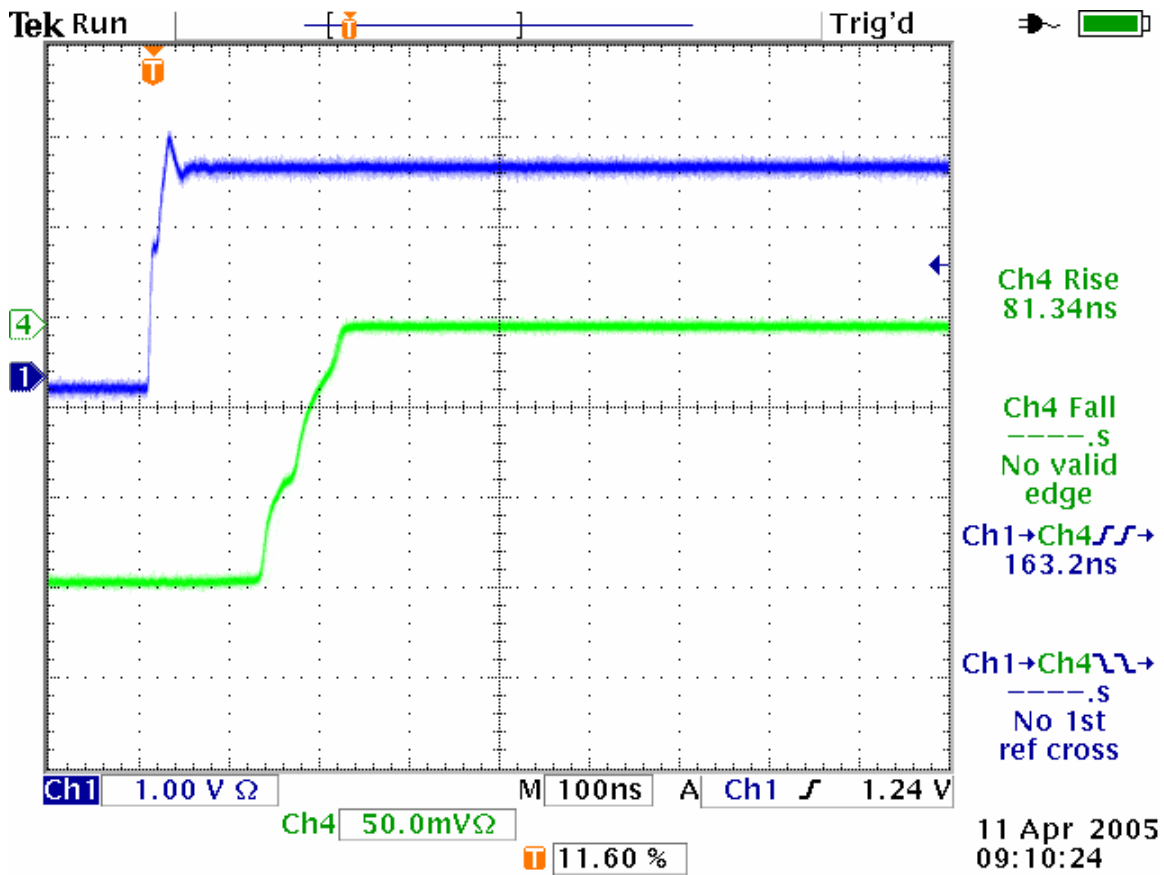
(VIDEO TRANSIENT PLOTS TAKEN AT VARIOUS BANDWIDTHS)

Model Number: SWN-RRA-2DR-LSI OPTION: NG, DB

Blue Trace: TTL Signal

Green Trace: Output Pulse of Switch

SWITCHING SPEED J1-J2

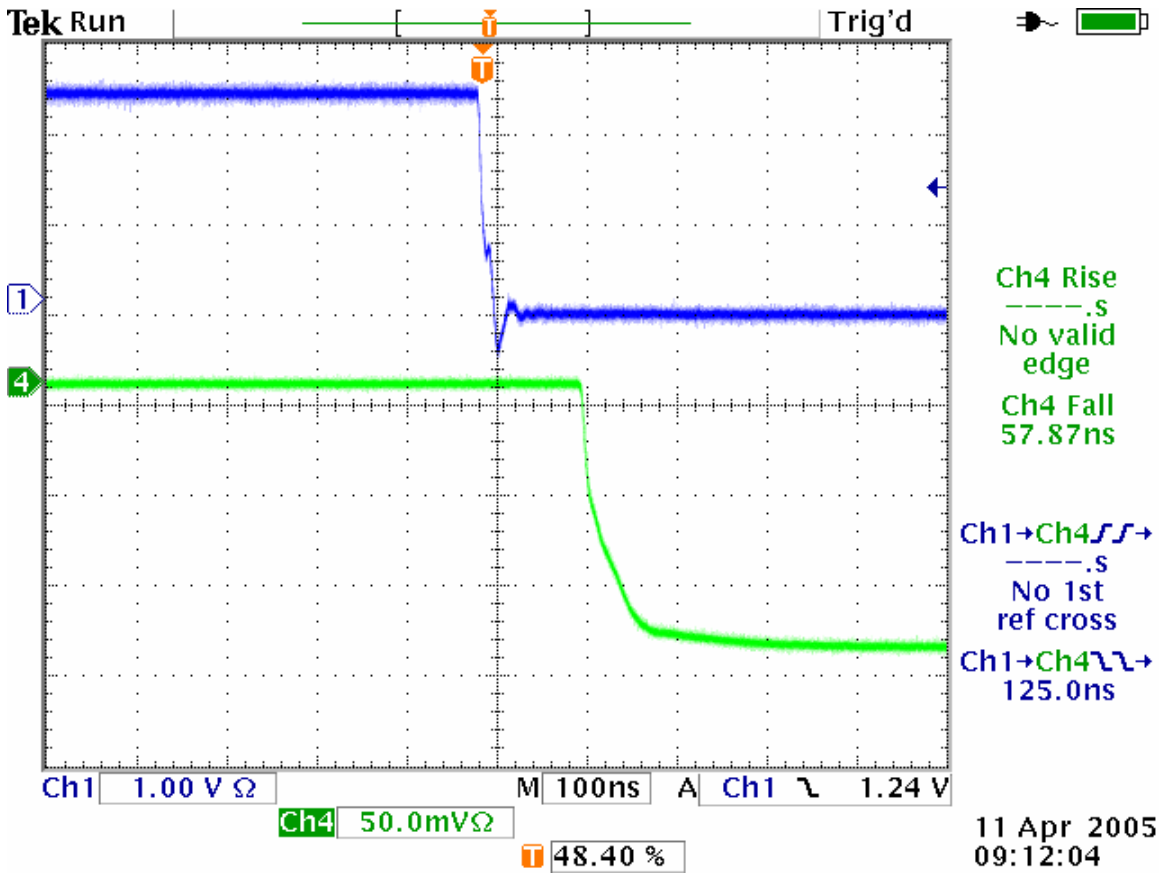


Model Number: SWN-RRA-2DR-LSI OPTION: NG, DB

Blue Trace: TTL Signal

Green Trace: Output Pulse of Switch

SWITCHING SPEED J1-J2

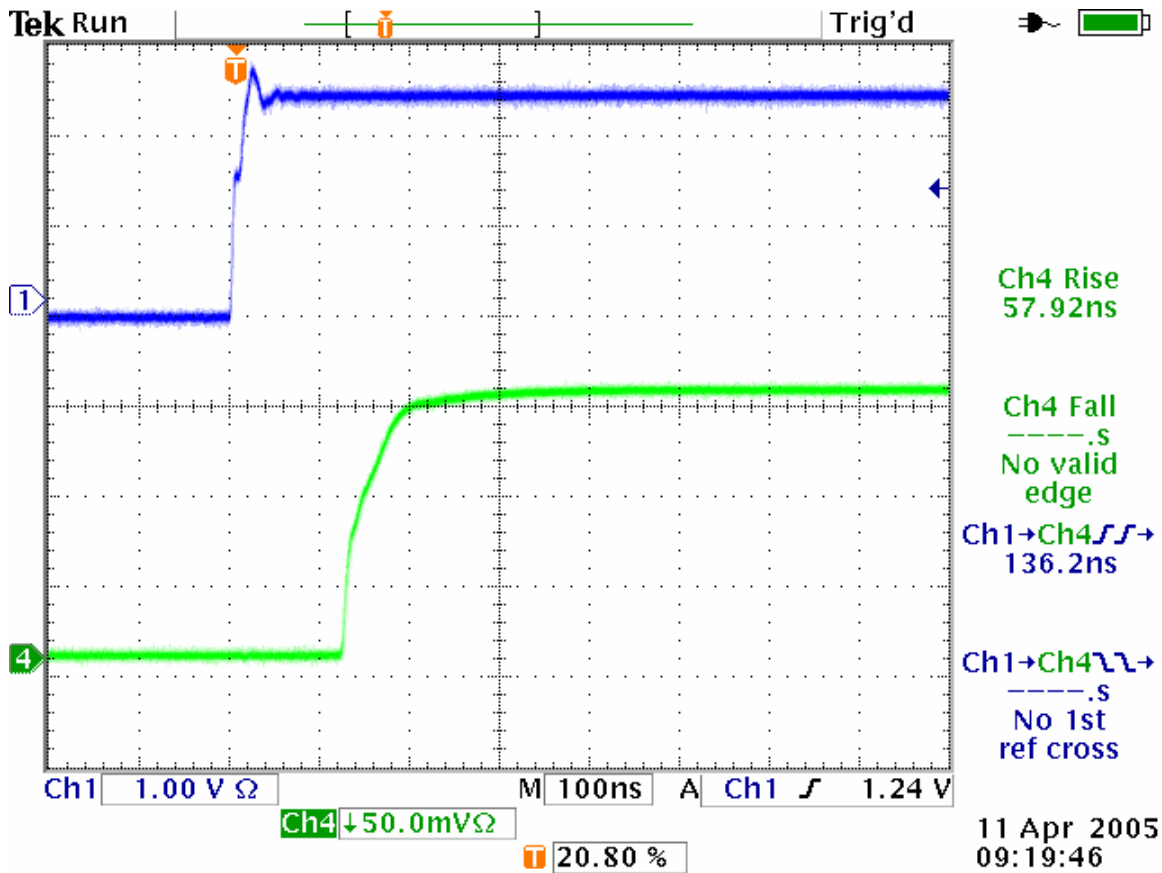


Model Number: SWN-RRA-2DR-LSI OPTION: NG, DB

Blue Trace: TTL Signal

Green Trace: Output Pulse of Switch

SWITCHING SPEED J1-J3

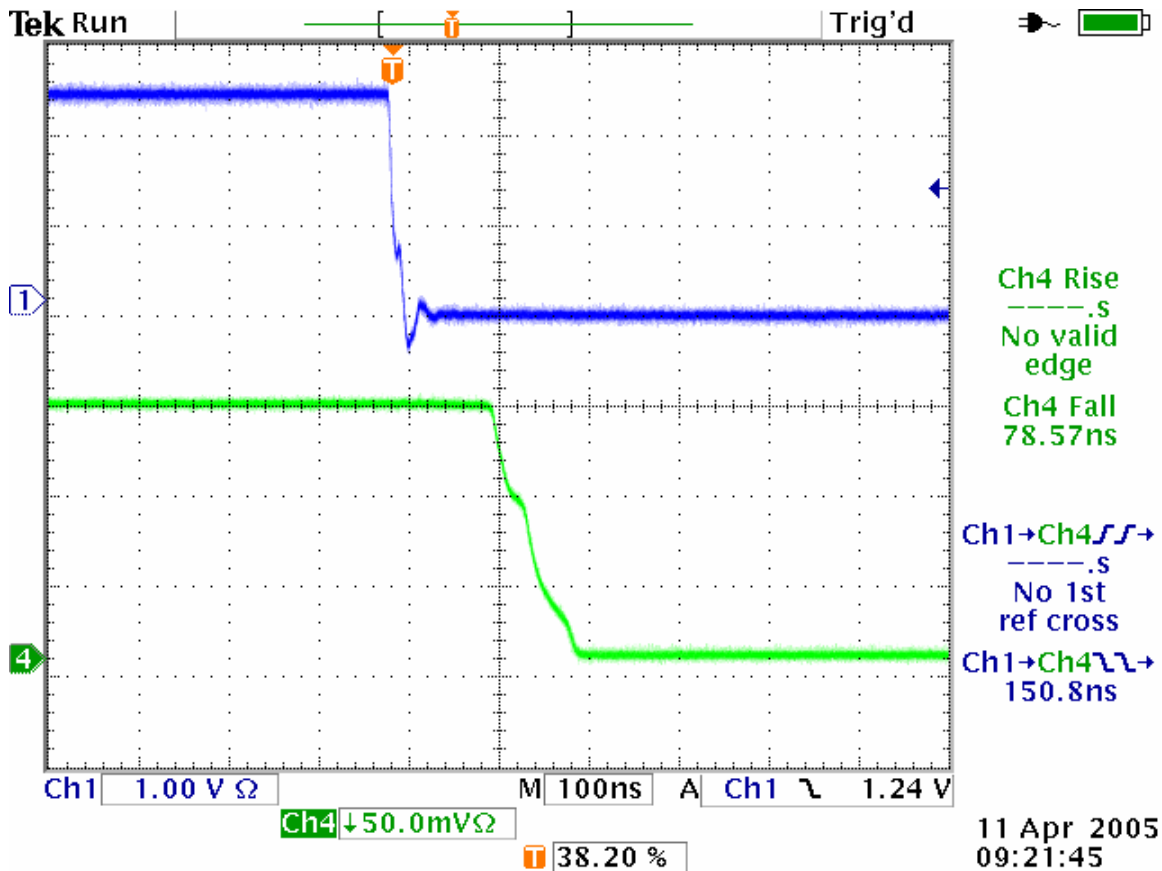


Model Number: SWN-RRA-2DR-LSI OPTION: NG, DB

Blue Trace: TTL Signal

Green Trace: Output Pulse of Switch

SWITCHING SPEED J1-J3

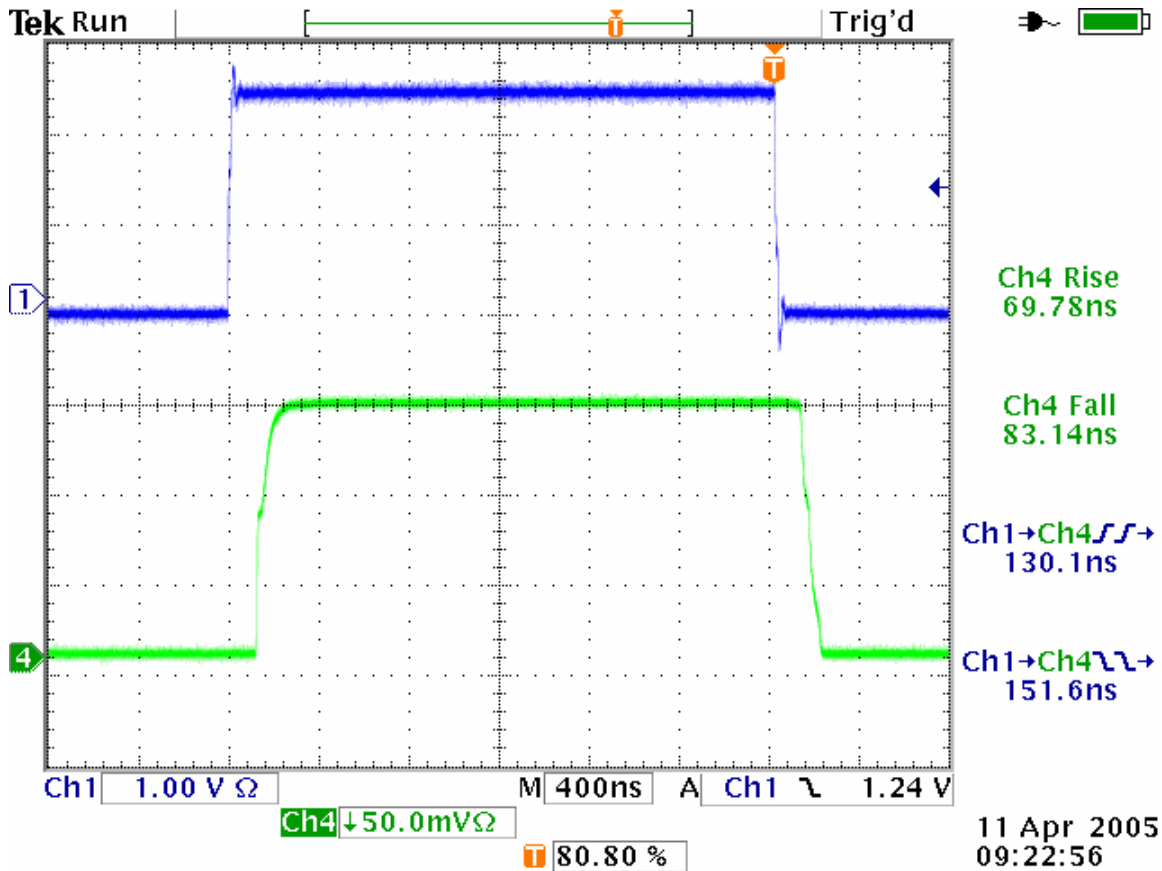


Model Number: SWN-RRA-2DR-LSI OPTION: NG, DB

Blue Trace: TTL Signal

Green Trace: Output Pulse of Switch

SWITCHING SPEED



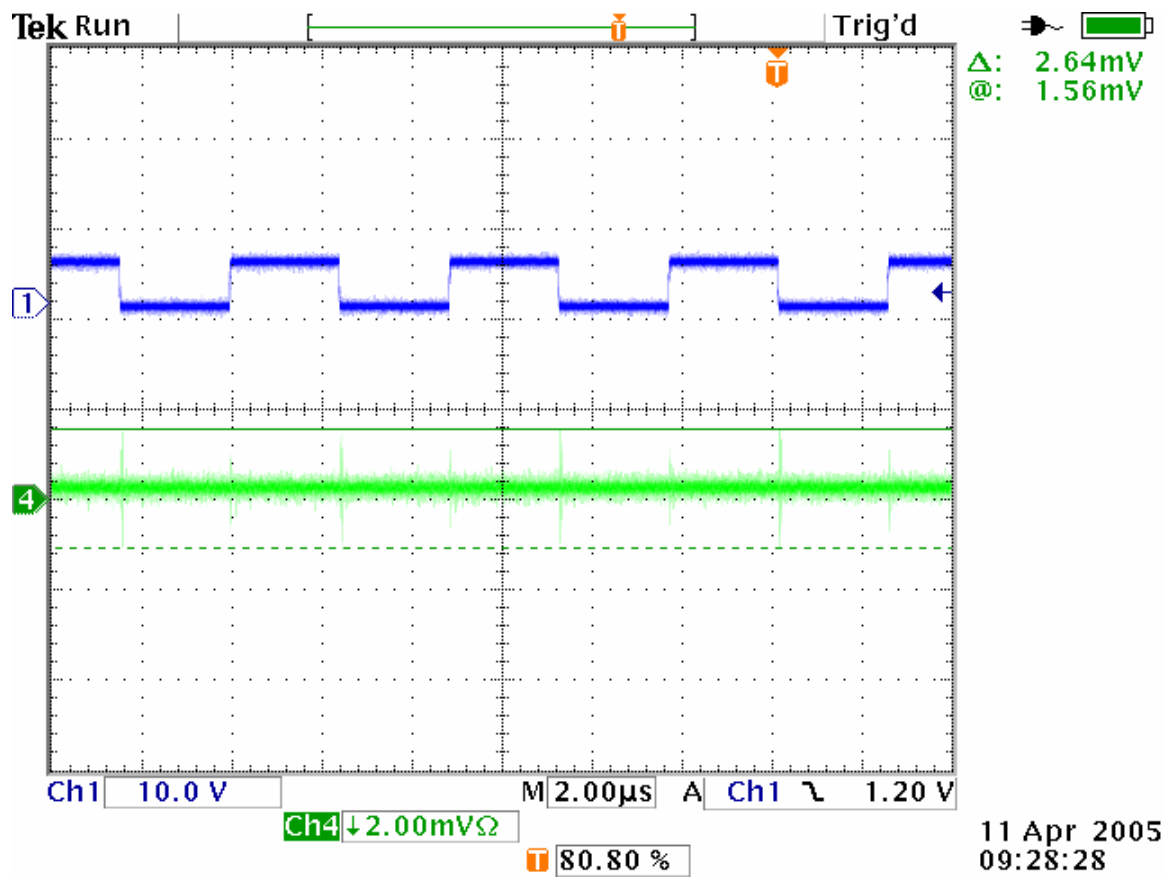
Model Number: SWN-RRA-2DR-LSI OPTION: NG, DB

Blue Trace: TTL Signal

Green Trace: Transient (mV)

Bandwidth: 100 MHz

VIDEO TRANSIENT J1



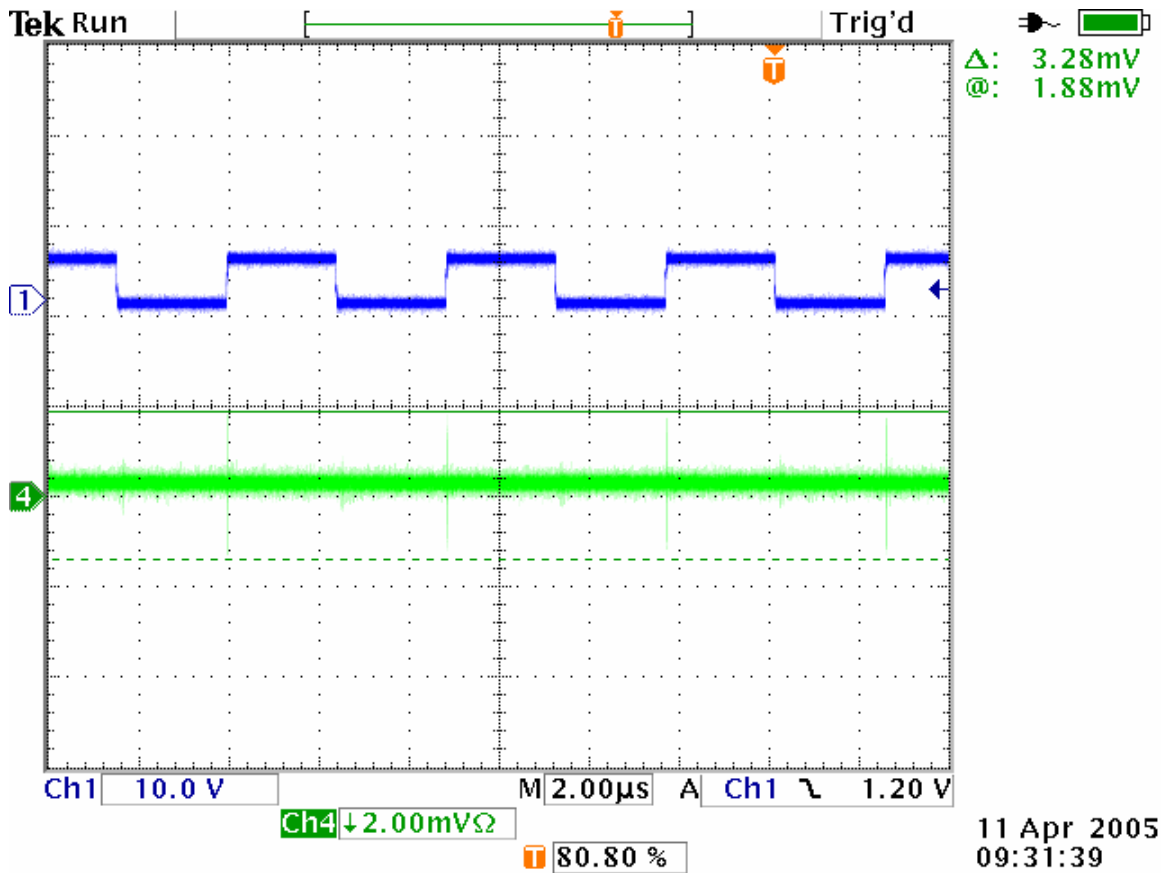
Model Number: SWN-RRA-2DR-LSI OPTION: NG, DB

Blue Trace: TTL Signal

Green Trace: Transient (mV)

Bandwidth: 100 MHz

VIDEO TRANSIENT J2



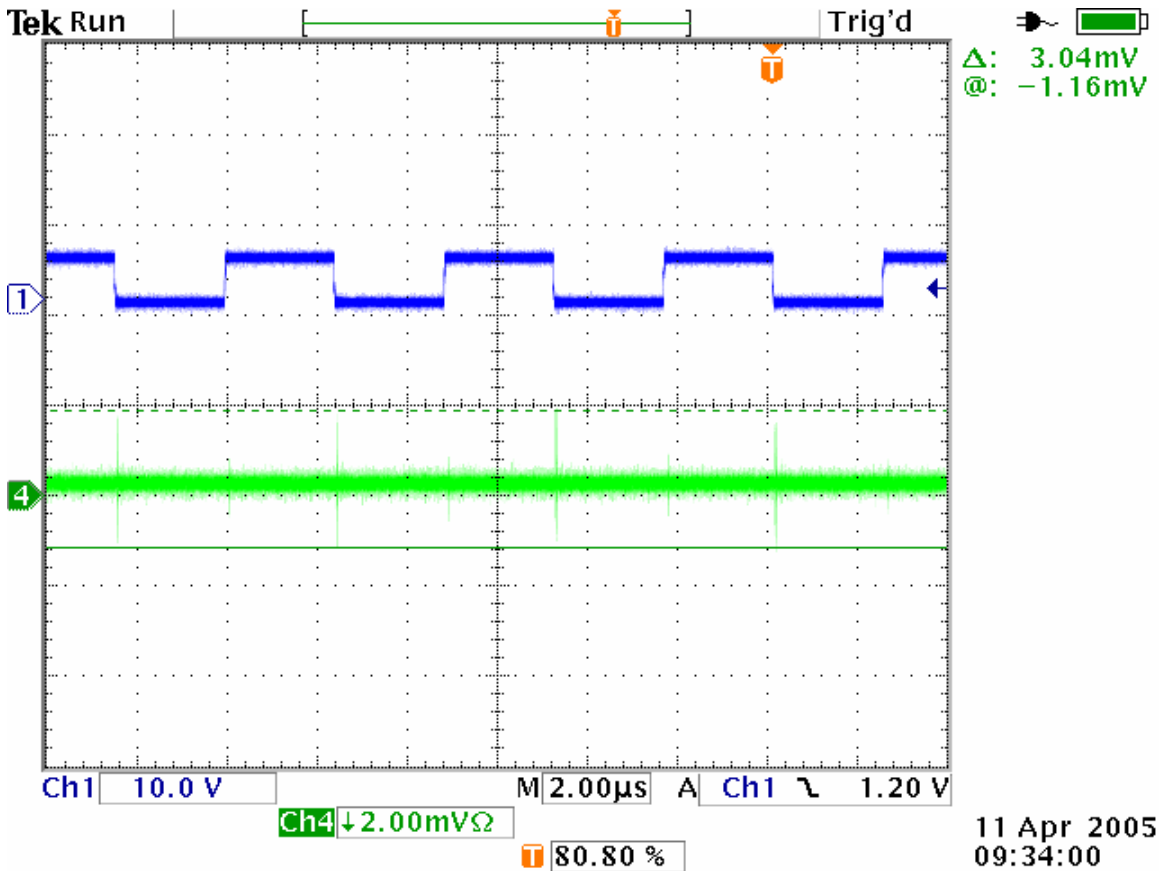
Model Number: SWN-RRA-2DR-LSI OPTION: NG, DB

Blue Trace: TTL Signal

Green Trace: Transient (mV)

Bandwidth: 100 MHz

VIDEO TRANSIENT J3



11 Apr 2005
09:34:00

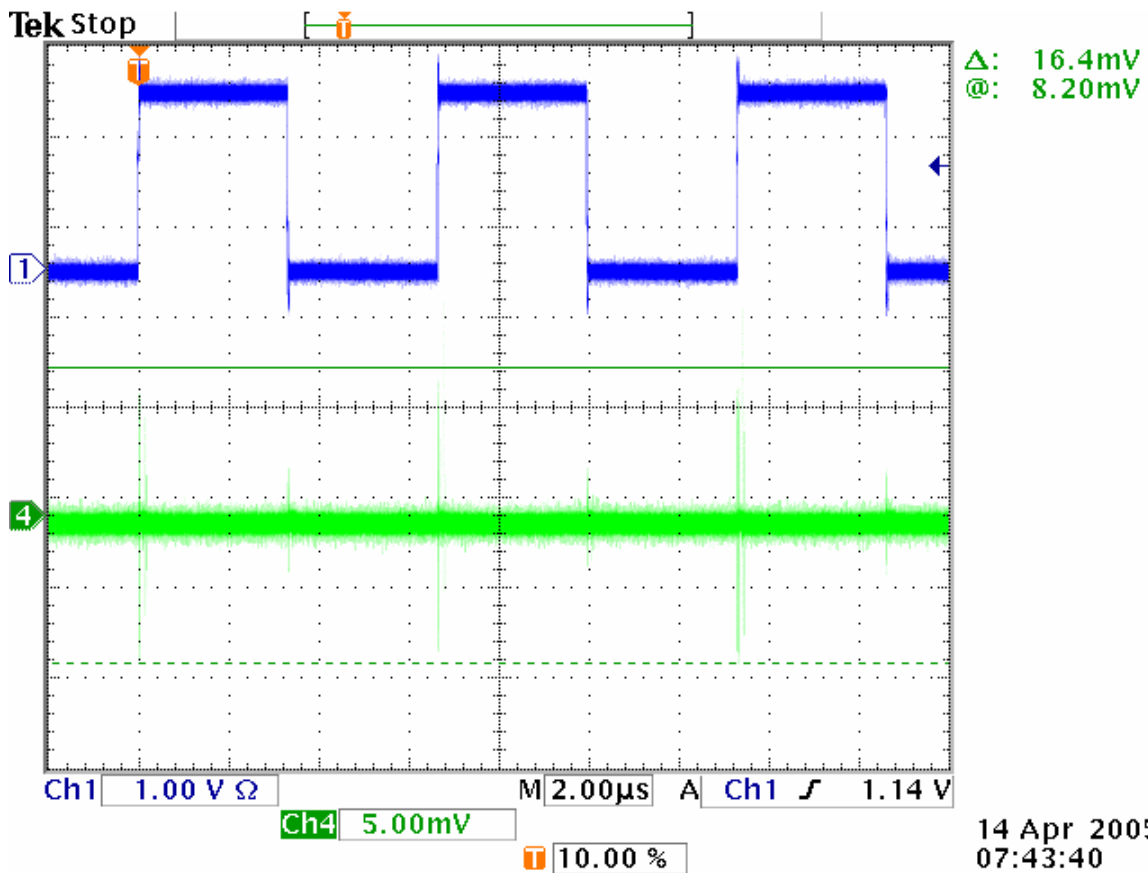
Model Number: SWN-RRA-2DR-LSI OPTION: NG, DB

Blue Trace: TTL Signal

Green Trace: Transient (mV)

Bandwidth: 500 MHz

VIDEO TRANSIENT J1



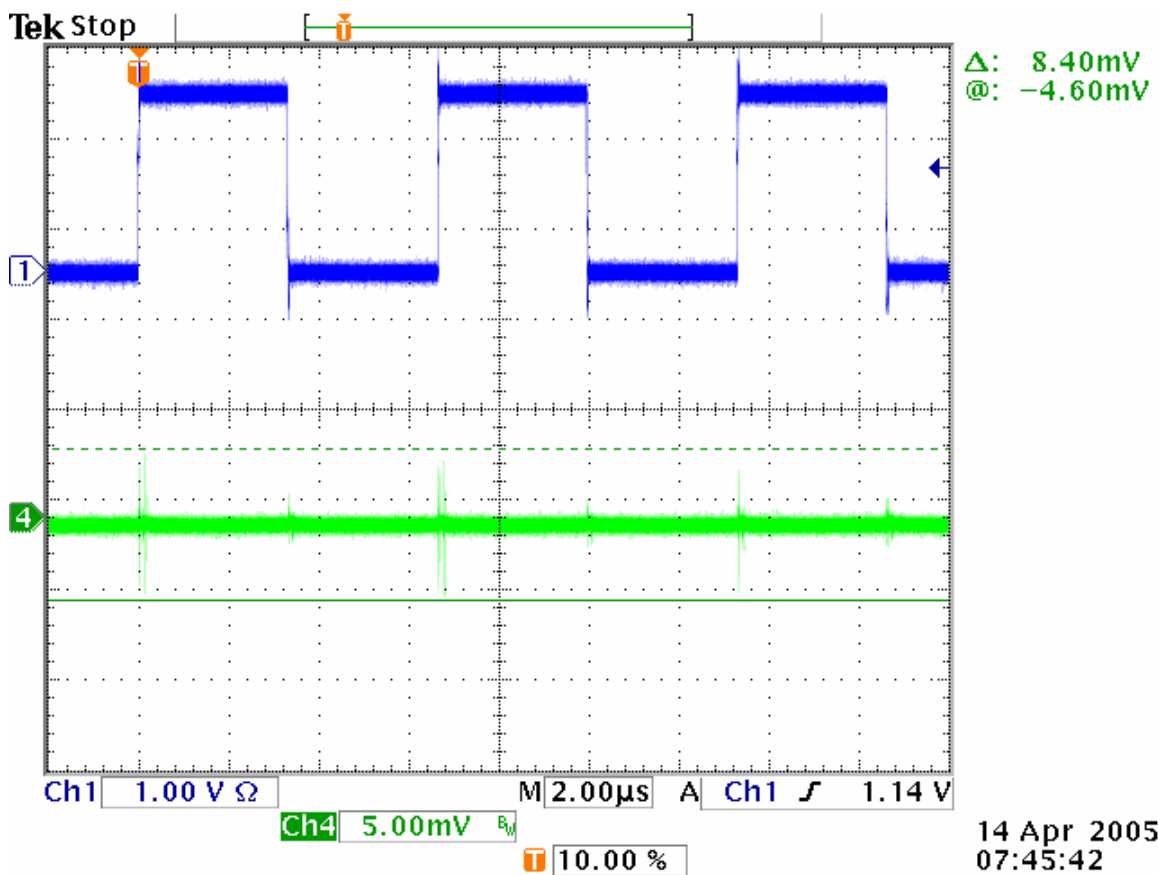
Model Number: SWN-RRA-2DR-LSI OPTION: NG, DB

Blue Trace: TTL Signal

Green Trace: Transient (mV)

Bandwidth: 150 MHz

VIDEO TRANSIENT J1



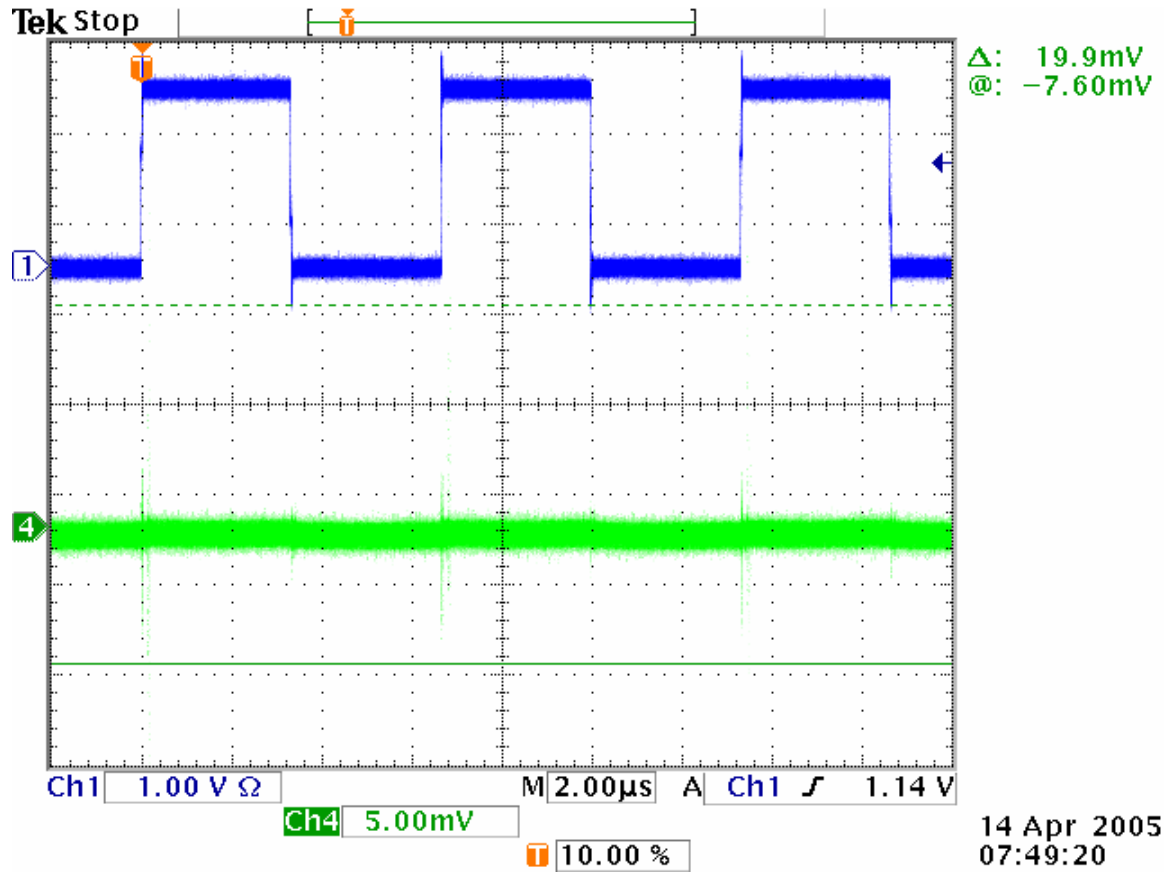
Model Number: SWN-RRA-2DR-LSI OPTION: NG, DB

Blue Trace: TTL Signal

Green Trace: Transient (mV)

Bandwidth: 500 MHz

VIDEO TRANSIENT J2



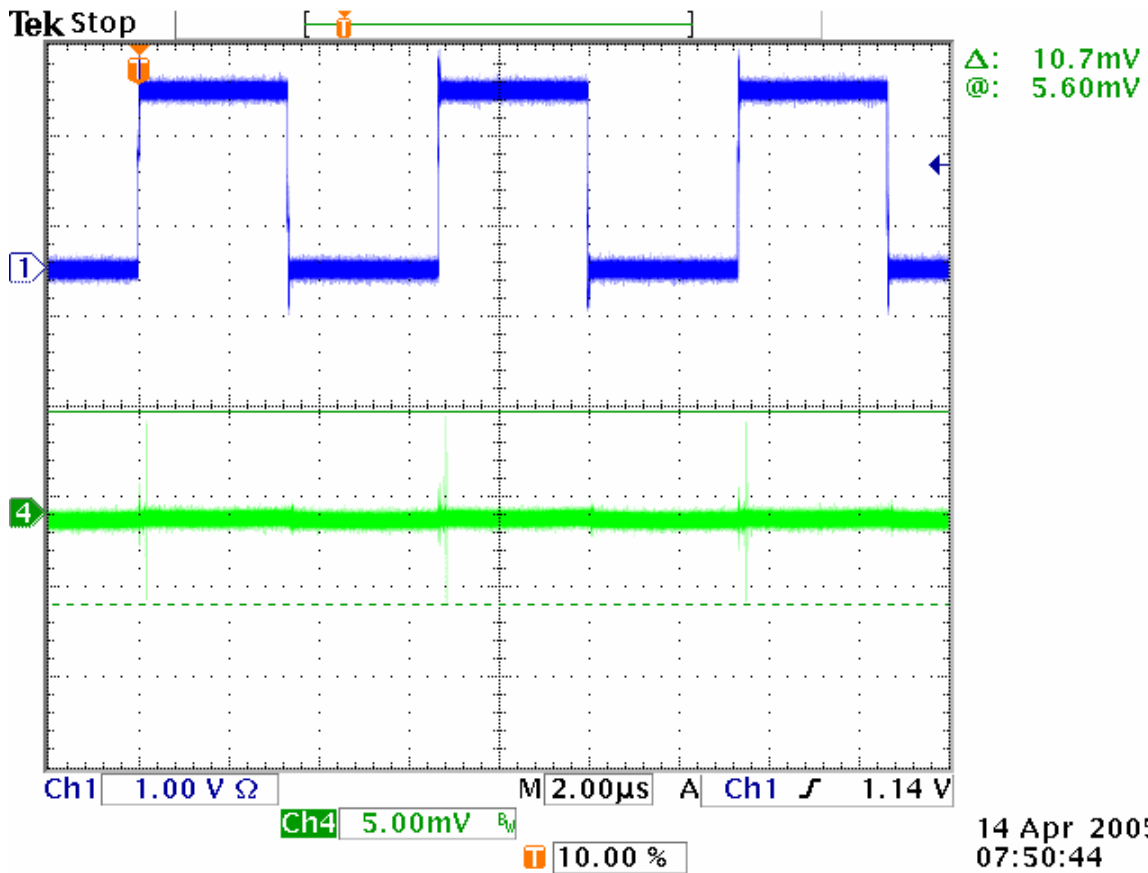
Model Number: SWN-RRA-2DR-LSI OPTION: NG, DB

Blue Trace: TTL Signal

Green Trace: Transient (mV)

Bandwidth: 150 MHz

VIDEO TRANSIENT J2



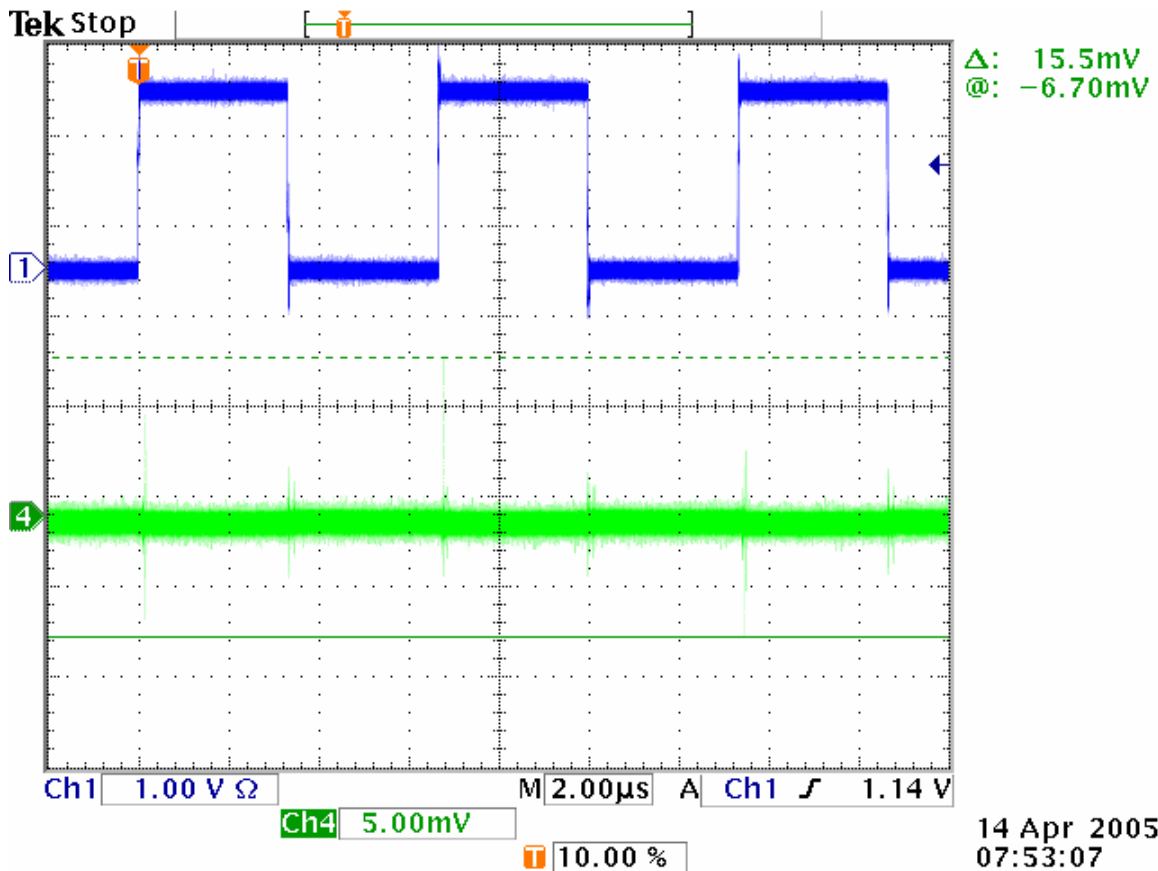
Model Number: SWN-RRA-2DR-LSI OPTION: NG, DB

Blue Trace: TTL Signal

Green Trace: Transient (mV)

Bandwidth: 500 MHz

VIDEO TRANSIENT J3



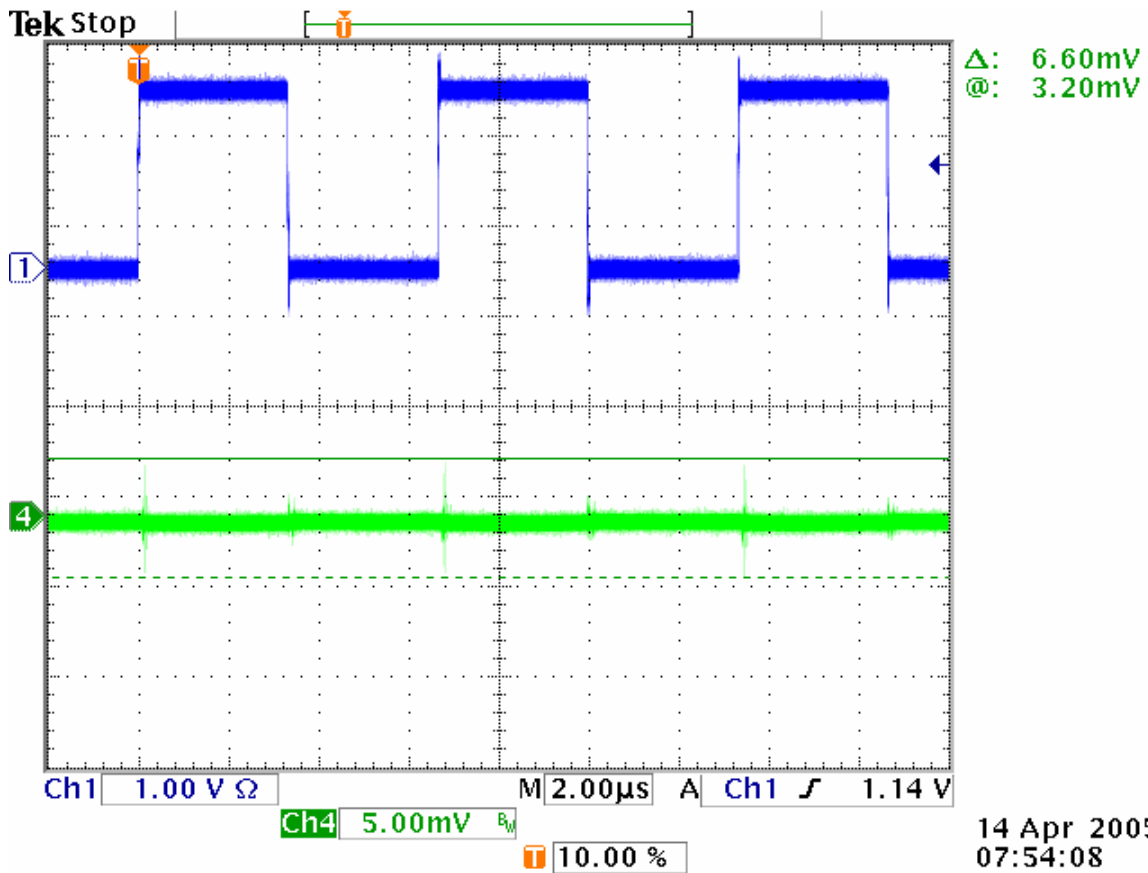
Model Number: SWN-RRA-2DR-LSI OPTION: NG, DB

Blue Trace: TTL Signal

Green Trace: Transient (mV)

Bandwidth: 150 MHz

VIDEO TRANSIENT J3



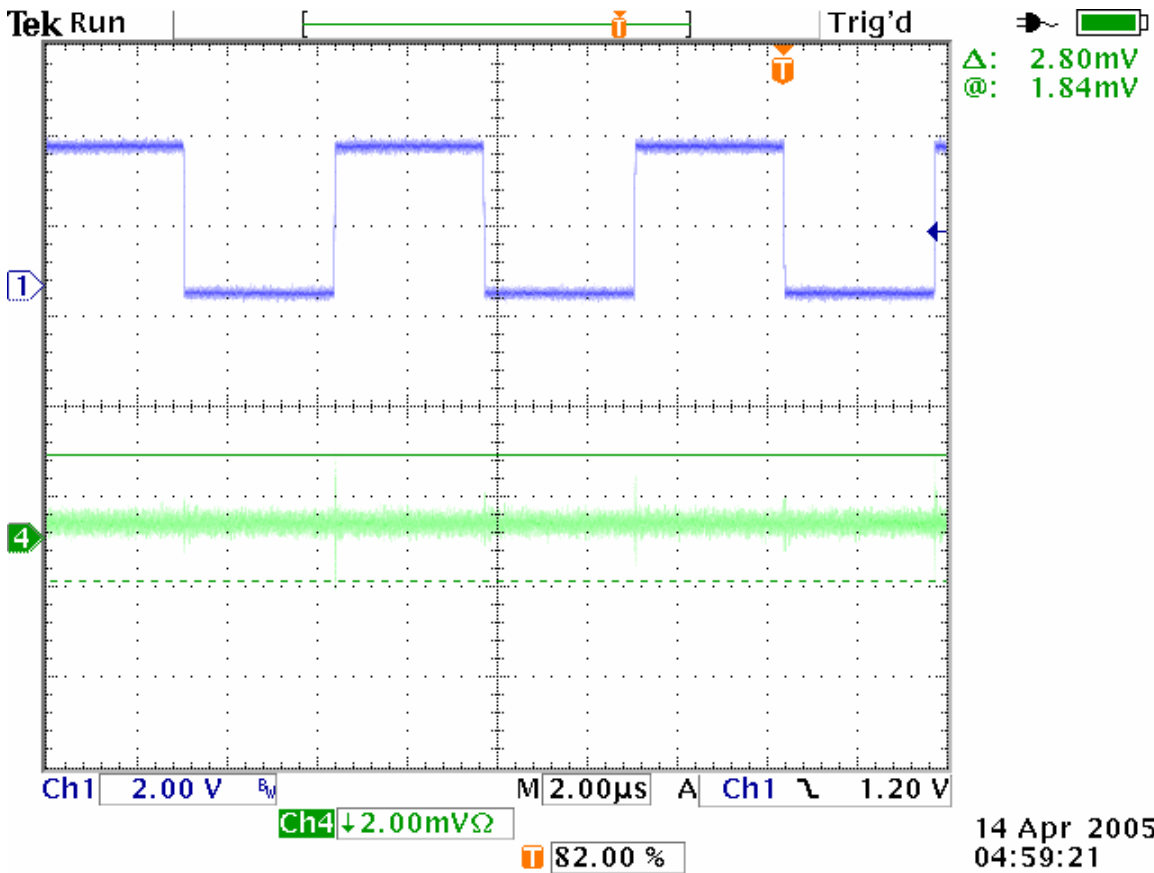
Model Number: SWN-RRA-2DR-LSI OPTION: NG, DB

Blue Trace: TTL Signal

Green Trace: Transient (mV)

Bandwidth: 20 MHz

VIDEO TRANSIENT J1



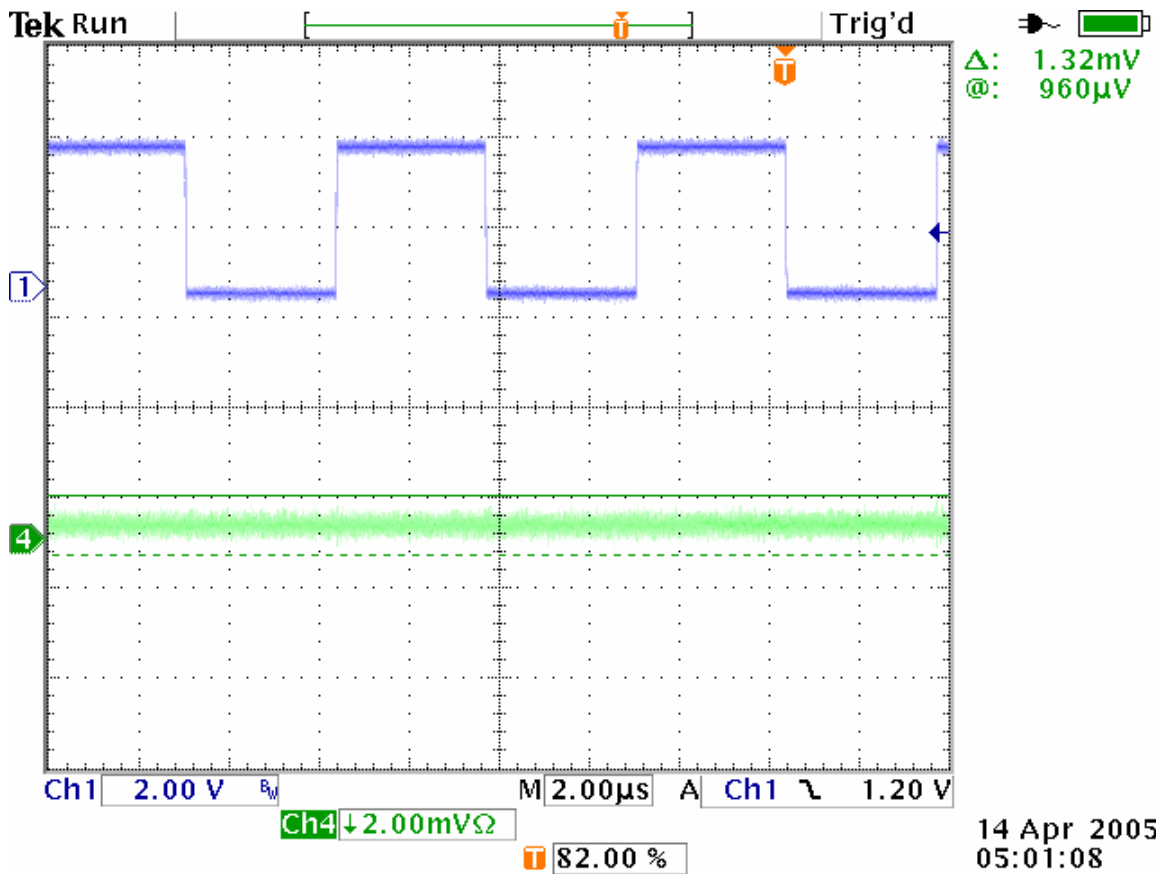
Model Number: SWN-RRA-2DR-LSI OPTION: NG, DB

Blue Trace: TTL Signal

Green Trace: Transient (mV)

Bandwidth: 20 MHz

VIDEO TRANSIENT J2



Model Number: SWN-RRA-2DR-LSI OPTION: NG, DB

Blue Trace: TTL Signal

Green Trace: Transient (mV)

Bandwidth: 20 MHz

VIDEO TRANSIENT J3

