# TYPICAL CHARACTERISTICS
# ON
# P4T-2G18G-60-T-512-SFF-LV

**PMI MODEL NUMBER: P4T-2G18G-60-T-512-SFF-LV IS A 2.0 GHz TO 18.0 GHz, SINGLE POLE, FOUR THROW, ABSORPTIVE SWITCH. THIS SWITCH OFFERS 60dB OF PORT TO PORT ISOLATION, AND A MAXIMUM INSERTION LOSS OF 3.2dB. IT HAS A SWITCHING SPEED OF 50ns AND IS INDEPENDENTLY TTL CONTROLLED. THE OPERATING POWER IS +23dBm CW AND THE VSWR IS 2.0:1 MAXIMUM.**


February 5, 2014

Designed By: PMI Engineering

Tested & Reported By:
Randy Combs
Sebastian Palacio

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# TYPICAL CHARACTERISTICS ON P4T-2G18G-60-T-512-SFF-LV

## DESCRIPTION

PMI MODEL NUMBER: P4T-2G18G-60-T-512-SFF-LV IS A 2.0 GHz TO 18.0 GHz, SINGLE POLE, FOUR THROW, ABSORPTIVE SWITCH. THIS SWITCH OFFERS 60dB OF PORT TO PORT ISOLATION, AND A MAXIMUM INSERTION LOSS OF 3.2dB. IT HAS A SWITCHING SPEED OF 50ns AND IS INDEPENDENTLY TTL CONTROLLED. THE OPERATING POWER IS +23dBm CW AND THE VSWR IS 2.0:1 MAXIMUM.

## SPECIFICATIONS

- FREQUENCY RANGE: ..... 2.0GHz TO 18.0GHz
- INSERTION LOSS: ..... 3.2dB MAX
- INSERTION LOSS TRACKING BETWEEN PORTS: ..... 0.8 dB Window MAX
- ISOLATION: ..... 60dB MIN
- VSWR: ..... 2.0:1 MAX
- SPEED: ..... 50ns MAX
  50% TTL TO 10%/90% RF
- SWITCHING RATE PRF: ..... 5MHz
- VIDEO LEAKAGE: ..... 50mV Peak-Peak Max / Mesured @ 300MHz BW
- INPUT POWER: ..... +23dBm CW MAX (Operating)
- SURVIVAL POWER: ..... +27dBm CW MAX
- CONTROL TTL: ..... 4 LINE INDEPENDENT
  LOGIC "0" = INSERTION LOSS / (1.6mA Max. Sink @ 0.4V)
  LOGIC "1" = ISOLATION / (40uA Max. Source @ 2.4V)
- POWER SUPPLY: ..... +5VDC @ 120mA MAX
  −12VDC @ 75mA MAX
- RF CONNECTORS: ..... SMA(F) – Passive Stainless Steel
- CONTROL, POWER, AND GROUND: ..... SOLDER PINS
- SEALING: ..... HERMETIC SEALED
- SIZE: ..... (L) 2.0" X (W) 1.0" X (H) 0.4"
- FINISH: ..... GRAY EPOXY POLIMIDE COATING IAW MIL-C-22750, TYPE I OVER EPOXY POLIMIDE PRIMER IAW MIL-P-23377, TYPE I, CLASS 1 OR 3.

## ENVIRONMENTAL RATINGS

- TEMPERATURE: ——— -54°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. C
- VIBRATION: ——— MIL-STD-202F, METHOD 204D COND. G
- SALT FOG: ——— MIL-STD-202F, METHOD 101D+EST COND. B
- FUNGUS: ——— MIL-STD-810F, METHOD 508.5

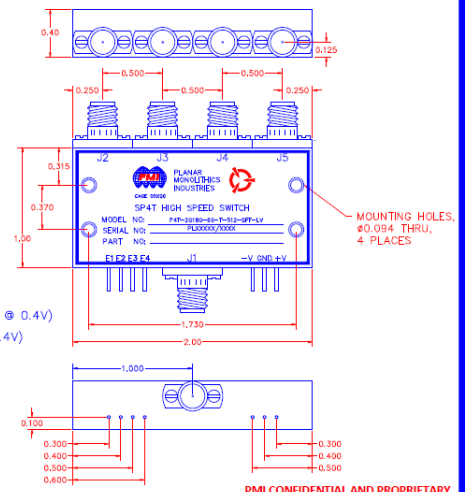
NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

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

REVISIONS

| ZONE | REV. | DESCRIPTION | DATE | APPROVED |
|---|---|---|---|---|
| | 1 | ORIGINAL RELEASE | 10/01/13 | |
| | A1 | ECN # 14-0022 | 02/10/14 | |
| | A2 | ECN # 24-0188 | 07/08/24 | |

## MECHANICAL OUTLINE




PMI CONFIDENTIAL AND PROPRIETARY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WEBSITE: www.pmi-rf.com
E-MAIL: sales@pmi-rf.com
ISO 9001 CERTIFIED


| APPROVALS | DATE |
|---|---|
| DRAWN: A.N.S | 10/01/13 |
| CHECKED | |
| ISSUED | |

TITLE: PRODUCT FEATURE
P4T-2G18G-60-T-512-SFF-LV

| SIZE | FSCM NO. | DWG NO. | REV. |
|---|---|---|---|
| A | 05XQ0 | 27020021 | A2 |

SCALE: N/S SHEET 1 OF 1

# TYPICAL CHARACTERISTICS
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# P4T-2G18G-60-T-512-SFF-LV

| TEST. ITEM NO | PARAMETERS | SPECIFIED VALUE | TEST RESULTS | QA QC |
|---|---|---|---|---|
| 1 | Frequency Range: | 2.0GHz to 18.0GHz | **2.0GHz to 18.0GHz See Plots** | |
| 2 | Insertion Loss: | 3.2dB Max | **3.12dB See Plots** | |
| 3 | Insertion Loss Tracking Between Ports: | 0.8 dB Window Max | **0.1dB See Plots** | |
| 4 | Isolation | 60dB Min | **69.92dB See Plots** | |
| 5 | VSWR: | 2.0:1 Max | **1.87:1 See Plots** | |
| 6 | Switching Speed: | 50ns Max 50% TTL to 10%/90% RF | **30ns See Plots** | |
| 7 | Switching Rate PRF: | 5MHz | **5 MHz See Plots** | |
| 8 | Video Leakage: | 50mV Peak To Peak Measured @ 300MHz BW | **2mV See Plots** | |
| 9 | Input Power: | +23dBm CW (Operating) | **+23dBm CW** | |
| 10 | Survival Power: | +27dBm CW | **+27dBm CW** | |
| 11 | *Control TTL | 4 Line Independent Logic “0” = Insertion Loss Logic “1” = Isolation | **4 Line Independent Logic “0” = Insertion Loss Logic “1” = Isolation** | |
| 12 | Power Supply: | +5VDC @ 120mA Max -12 VDC @ 75mA | **80mA 75mA** | |

* Logic “0” = 1.6mA Max. Sink @ 0.4V
* Logic “1” = 40µA Max. Source @ 2.4V

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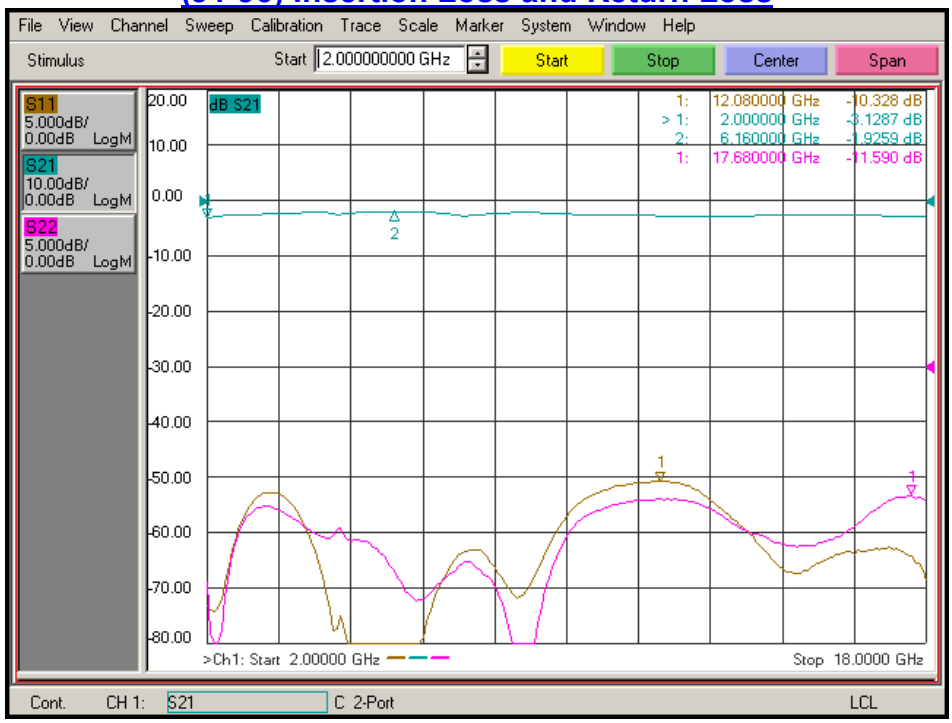
# TYPICAL CHARACTERISTICS ON P4T-2G18G-60-T-512-SFF-LV

## (J1-J2) Insertion Loss and Return Loss


## (J1-J3) Insertion Loss and Return Loss





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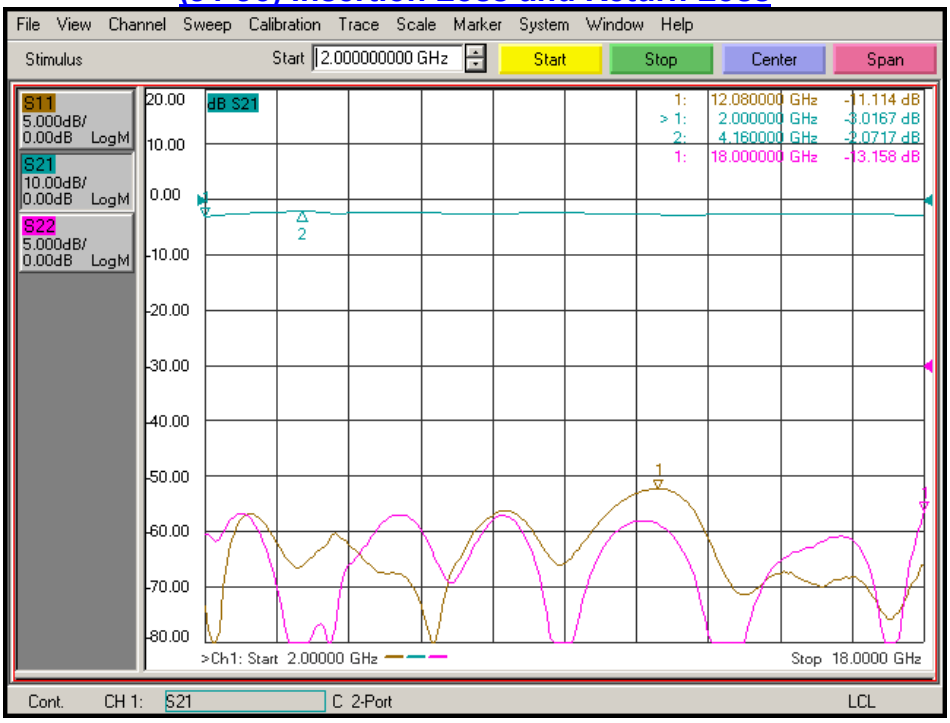
# TYPICAL CHARACTERISTICS ON P4T-2G18G-60-T-512-SFF-LV

## (J1-J4) Insertion Loss and Return Loss


## (J1-J5) Insertion Loss and Return Loss





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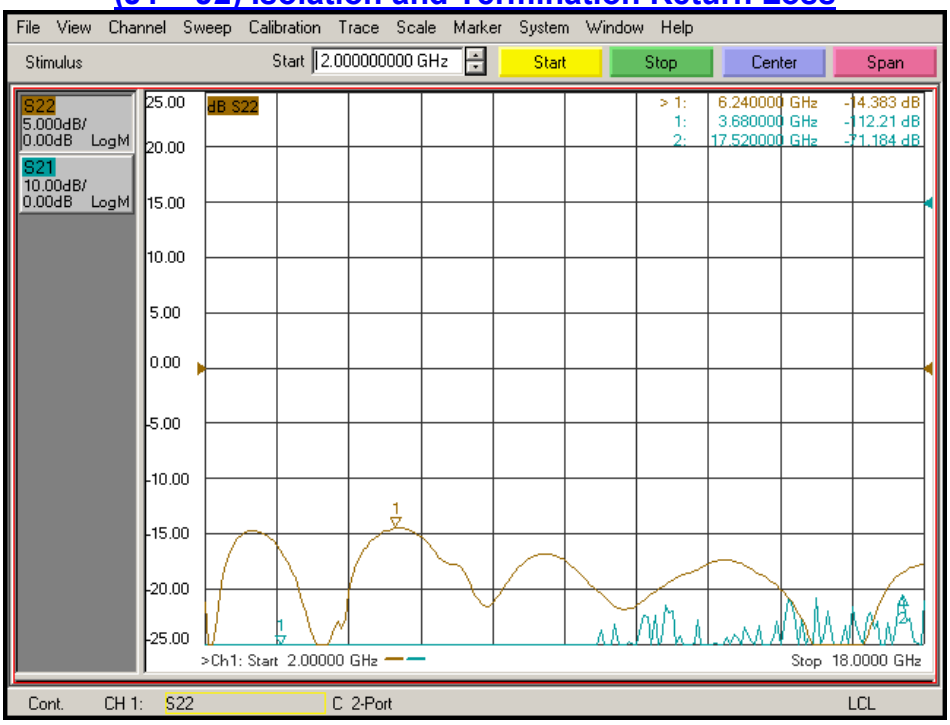
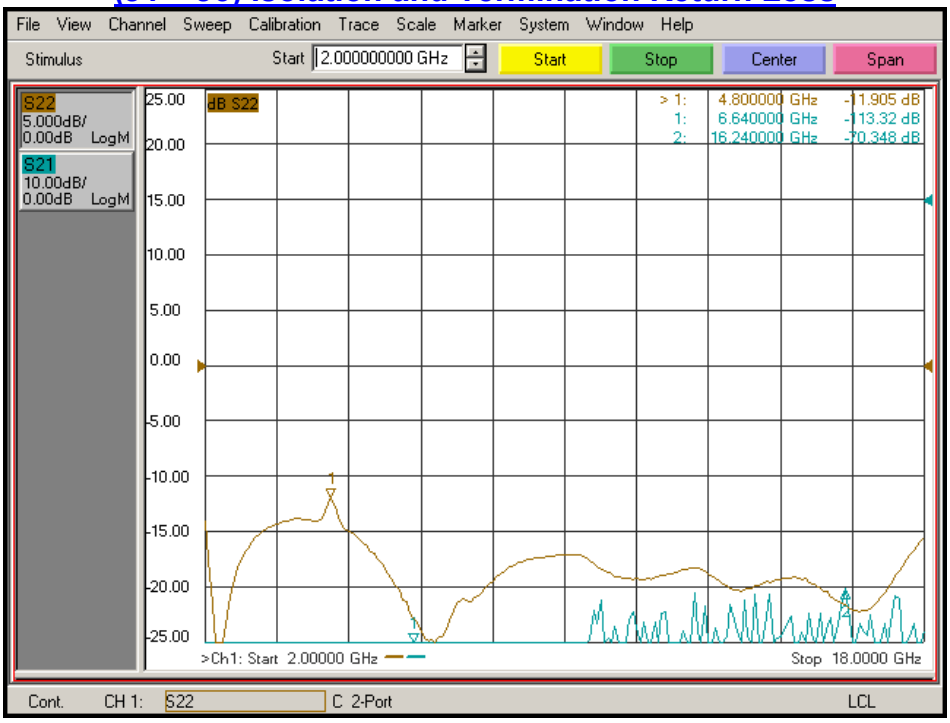
# TYPICAL CHARACTERISTICS ON P4T-2G18G-60-T-512-SFF-LV

## (J1 – J2) Isolation and Termination Return Loss




## (J1 – J3) Isolation and Termination Return Loss





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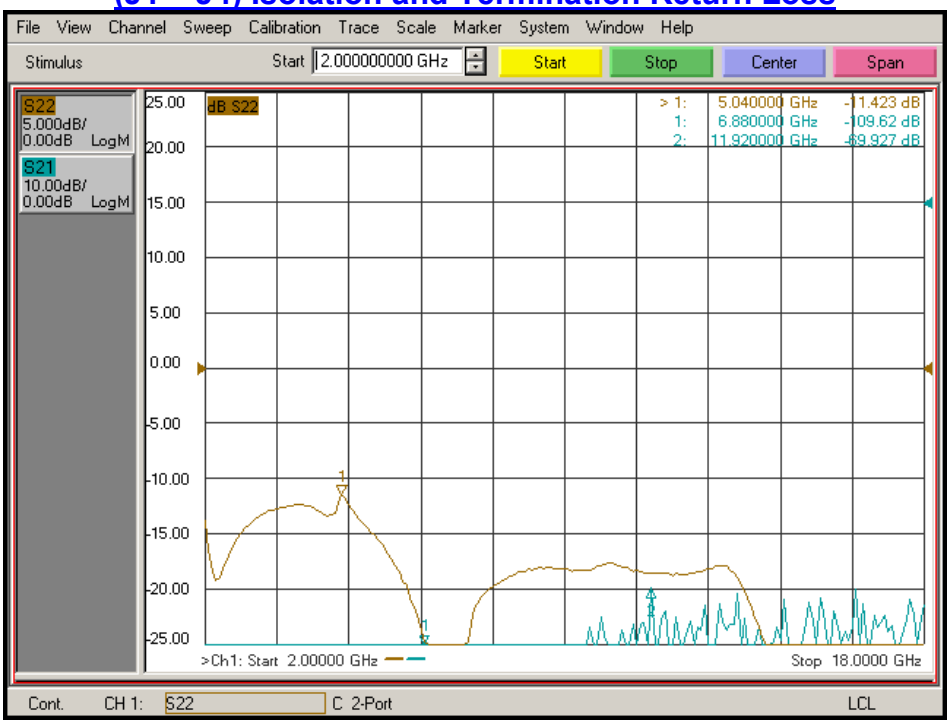
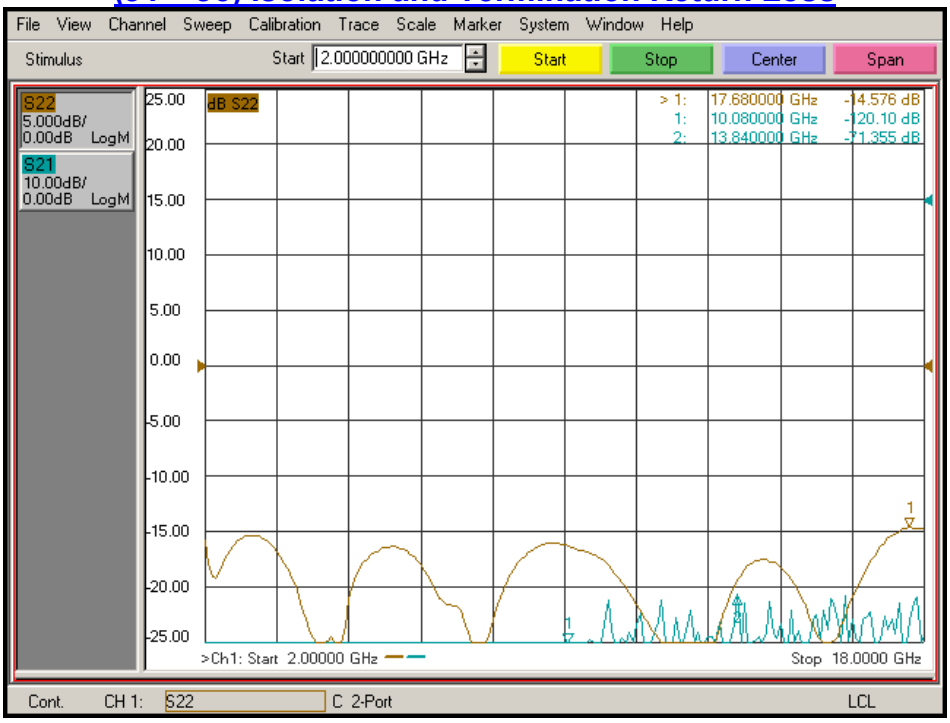
# TYPICAL CHARACTERISTICS ON P4T-2G18G-60-T-512-SFF-LV

## (J1 – J4) Isolation and Termination Return Loss




## (J1 – J5) Isolation and Termination Return Loss





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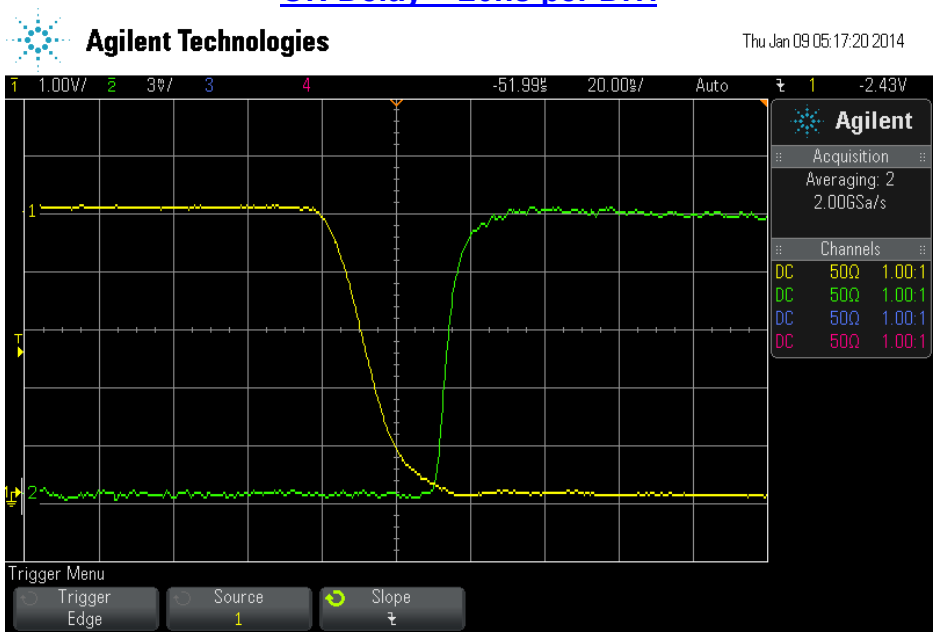
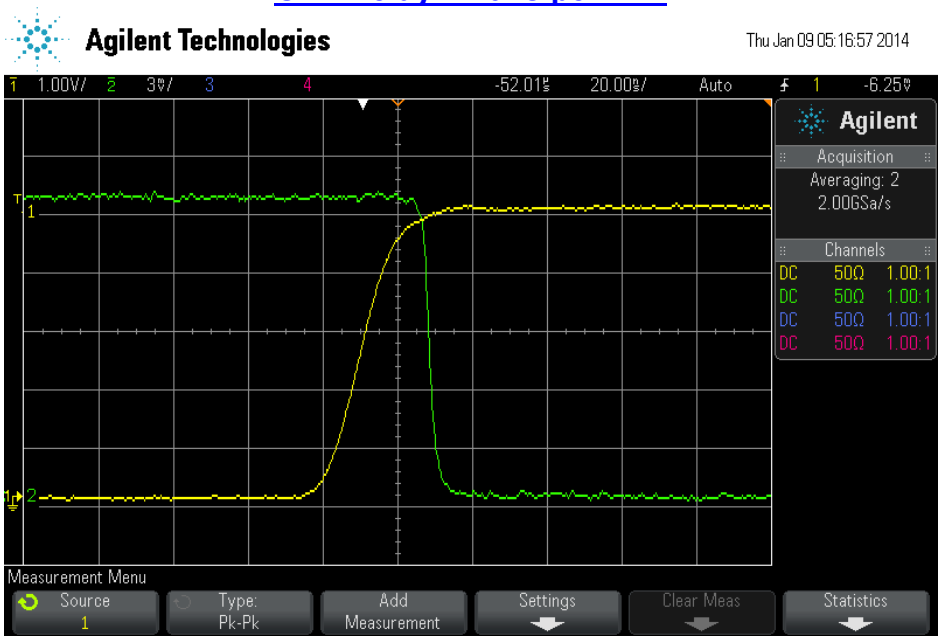
# TYPICAL CHARACTERISTICS ON P4T-2G18G-60-T-512-SFF-LV

## Switching Speed

### ON Delay – 20ns per Div.




### OFF Delay – 20ns per Div.




Green Trace: RF Signal
Yellow Trace: TTL Signal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# TYPICAL CHARACTERISTICS
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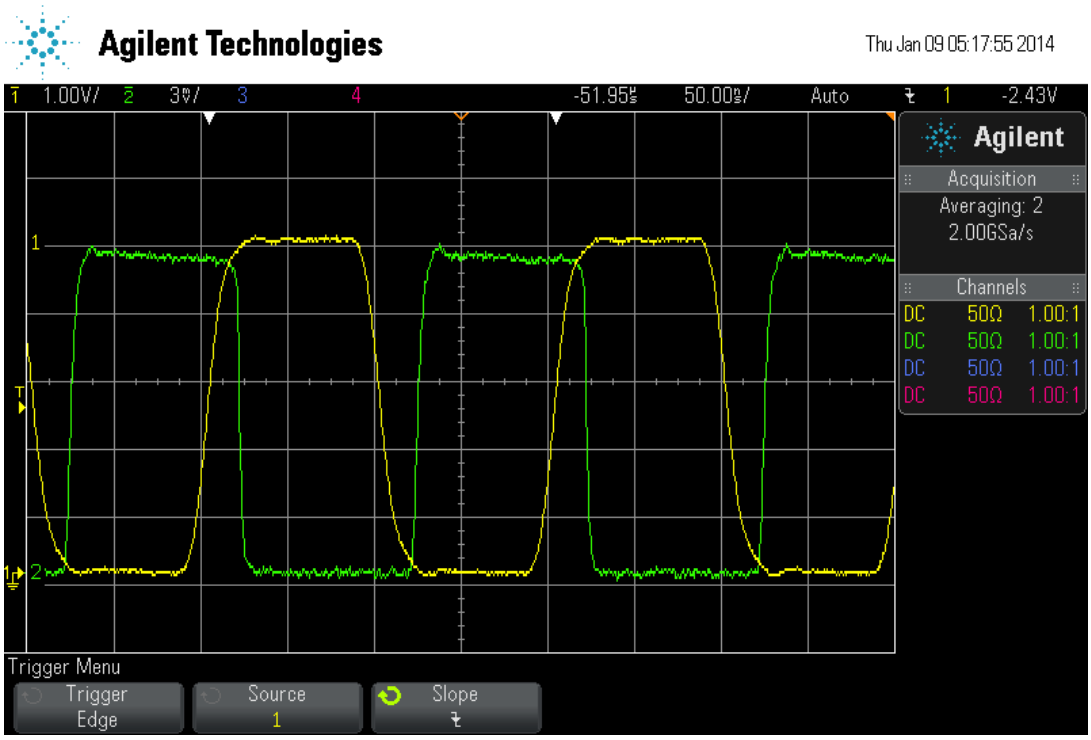
## Control Signal Pulsed at 5MHz

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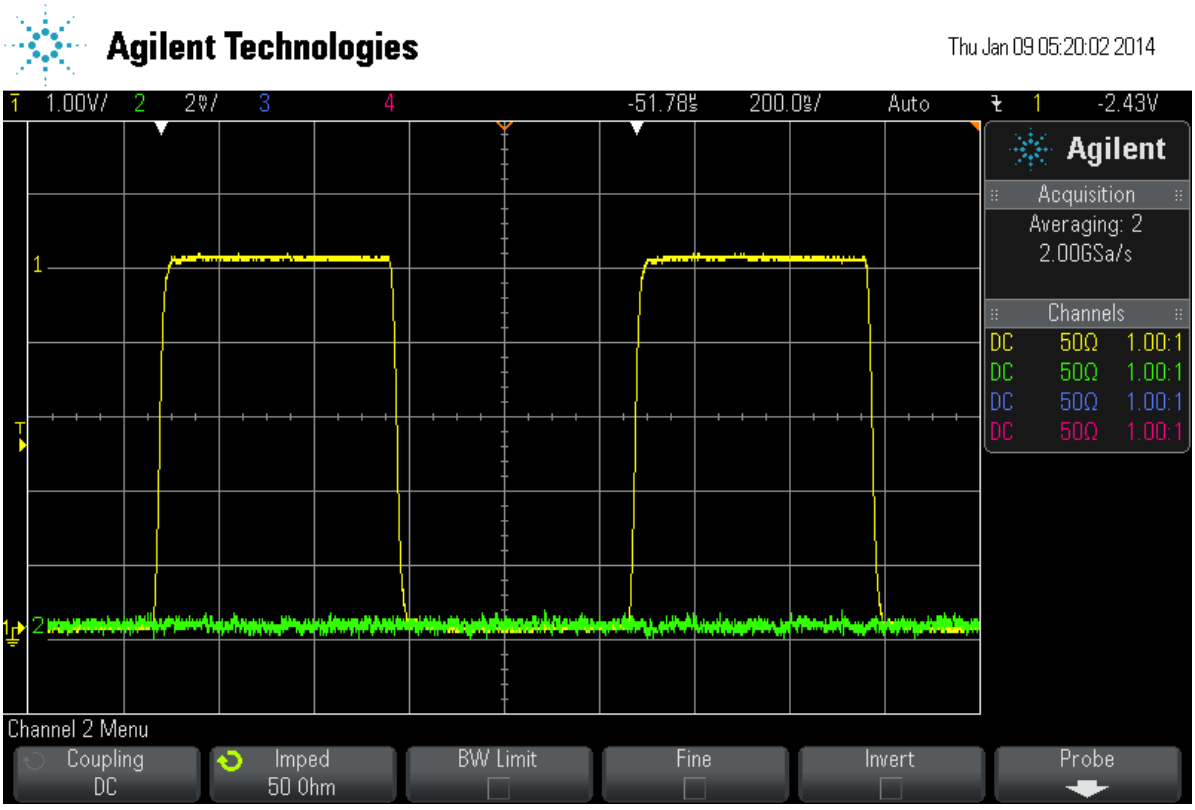
# TYPICAL CHARACTERISTICS ON P4T-2G18G-60-T-512-SFF-LV

## Video Transients




Green Trace: Video Transients
Yellow Trace: TTL Signal

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