



**Typical Characteristics**  
**on**  
**PVVAN-4080-60-MP**

**PMI MODEL NUMBER PVVAN-4080-60-MP IS AN ANALOG CONTROLLED 60 dB PIN DIODE ATTENUATOR OPERATING OVER THE FREQUENCY RANGE OF 4.0 GHz TO 8.0 GHz.**



December 19, 2014

Reported By: Kevin Mansfield



# Typical Characteristics on PVVAN-4080-60-MP

| REVISIONS |      |                  |          |
|-----------|------|------------------|----------|
| DATE      | REV. | DESCRIPTION      | APPROVED |
|           | A1   | ORIGINAL RELEASE | 03/25/14 |
|           | A2   | ECN # 1R-0194    | 10/11/14 |
|           | A3   | ECN # 22-0067    | 07/18/22 |

**DESCRIPTION**

PMI MODEL NUMBER PVVAN-4080-60-MP IS AN ANALOG CONTROLLED 60dB PIN DIODE ATTENUATOR OPERATING OVER THE FREQUENCY RANGE OF 4.0 TO 8.0 GHz.

**SPECIFICATIONS**

- FREQUENCY RANGE: 4.0 GHz TO 8.0 GHz
- MEAN ATTENUATION RANGE: 60dB
- INSERTION LOSS: 2.5dB MAX
- VSWR: 2.0:1 MAX
- POWER RATING: +20dBm (OPERATING)  
+30dBm (SURVIVAL)
- ATTENUATION FLATNESS:
  - @ 10dB: ±0.50dB
  - @ 20dB: ±0.87dB
  - @ 40dB: ±1.50dB
  - @ 60dB: ±1.60dB
- SWITCHING TIME: 500ns MAX
- CONTROL: 10dB/VOLT ANALOG CONTROLLED
- POWER SUPPLY: +12V TO +15V @ 125mA MAX  
-12V TO -15V @ 50mA MAX
- POWER/CONTROL CONNECTOR: 15 PIN MICRO-D FEMALE (MATING CONNECTOR SUPPLIED)
- RF CONNECTORS: SMA (F) REMOVABLE
- SIZE: (L) 2.00" X (W) 1.80" X (H) 0.50"
- FINISH: PAINTED BLUE

**ENVIRONMENTAL RATINGS**

- TEMPERATURE: -55°C TO +85°C (OPERATING)  
-55°C TO +125°C (STORAGE)
- HUMIDITY: ML-STD-202F, METHOD 103B COND. B
- SHOCK: ML-STD-202F, METHOD 213B COND. B
- VIBRATION: ML-STD-202F, METHOD 204D COND. B
- ALTITUDE: ML-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: ML-STD-202F, METHOD 107D COND. A

NOTE: SPECIFICATIONS ONLY VARY DURING OPERATING TEMPERATURES  
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

**MECHANICAL OUTLINE**

| PIN NO. | J3 PIN FUNCTIONS |
|---------|------------------|
| 1       | NIC              |
| 2       | NIC              |
| 3       | ANALOG INPUT     |
| 4       | GND              |
| 5       | NIC              |
| 6       | NIC              |
| 7       | NIC              |
| 8       | NIC              |
| 9       | NIC              |
| 10      | NIC              |
| 11      | NIC              |
| 12      | NIC              |
| 13      | +12 or +15 VDC   |
| 14      | -12 or -15 VDC   |
| 15      | NIC              |

**PLANAR MONOLITHICS INDUSTRIES, INC.**  
 ANALOG ATTENUATOR  
 4.0 TO 8.0 GHz  
 MODEL NO: PVVAN-4080-60-MP  
 SERIAL NO: PLXXXXXXXXXX

PMI CONFIDENTIAL AND PROPRIETARY

PLANAR MONOLITHICS INDUSTRIES, INC.

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WEBSITE: [www.pmi-rf.com](http://www.pmi-rf.com)  
E-MAIL: [sales@pmi-rf.com](mailto:sales@pmi-rf.com)  
ISO 9001 CERTIFIED

| APPROVALS |            | DATE     | FILE  |                  |                  |
|-----------|------------|----------|-------|------------------|------------------|
| DRAWN     | <i>afh</i> | 03/25/14 | TITLE | PWVAN-4080-60-MP | REV: A3          |
| HECKED    |            |          | SIZE  | 05XQ0            | DWG NO. 27022582 |
| DESIGNED  |            |          | SCALE | N/S              | SHEET 1 OF 1     |

ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
XXX .0020  
XXX .0010



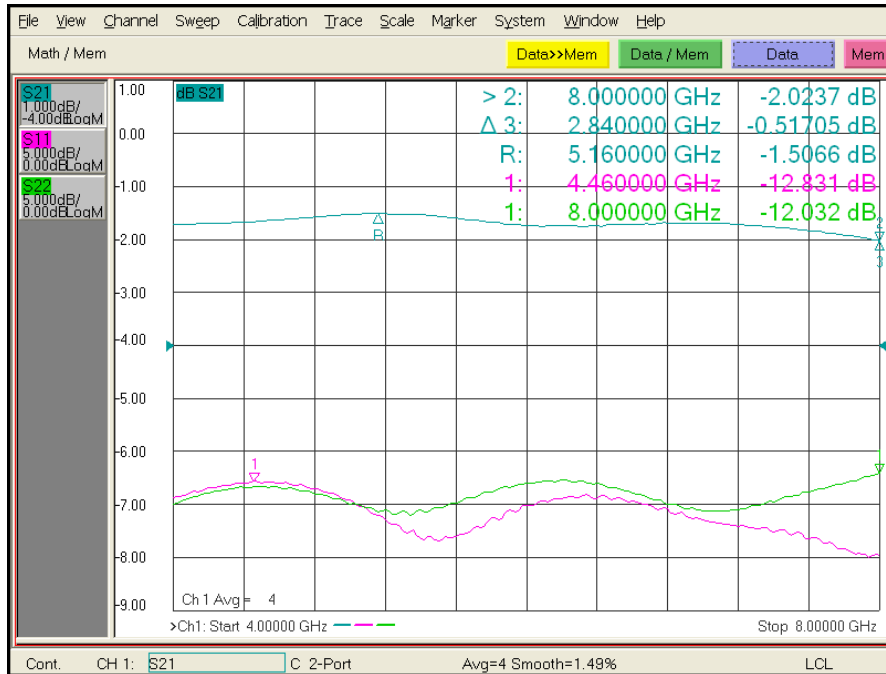
## Typical Characteristics on PVVAN-4080-60-MP

| TEST. ITEM NO | PARAMETERS              | SPECIFIED VALUE                                     | TEST RESULTS                    | QA QC  |        |
|---------------|-------------------------|---|---------------------------------|--------|--------|
| 1             | Frequency Range:        | 4.0 GHz to 8.0 GHz                                  | 4.0 GHz to 8.0 GHz<br>See Plots |        |        |
| 2             | Mean Attenuation Range: | 60dB  | 61dB<br>See Plots               |        |        |
| 3             | Insertion Loss:         | 2.5dB Max   | 2.0dB<br>See Plot               |        |        |
| 4             | VSWR:                   | 2.0:1 Max   | 1.7:1<br>See Plots              |        |        |
| 5             | Power Rating:           | +20dBm (Operating)<br>+30dBm (Survival)             | Pass                            |        |        |
| 6             | Attenuation Flatness:   |   |                                 |        |        |
|               |                         | @ 10dB  | ±0.5dB Typ.                     | @ 10dB | ±0.4dB |
|               |                         | @ 20dB  | ±1.0dB Typ.                     | @ 20dB | ±0.7dB |
|               |                         | @ 40dB  | ±1.5dB Typ.                     | @ 40dB | ±1.1dB |
|               |                         | @ 60dB  | ±1.6dB Typ.                     | @ 60dB | ±1.5dB |
|               |                         | See Plots   |                                 |        |        |
| 7             | Switching Time:         | 500ns Max   | 78ns<br>See Plot                |        |        |
| 8             | Control:                | 10dB/Volt Analog Controlled                         | Pass                            |        |        |
| 9             | Power Supply:           | +12V to +15V @ 125mA Max<br>-12V to -15V @ 50mA Max | 21mA<br>0mA                     |        |        |

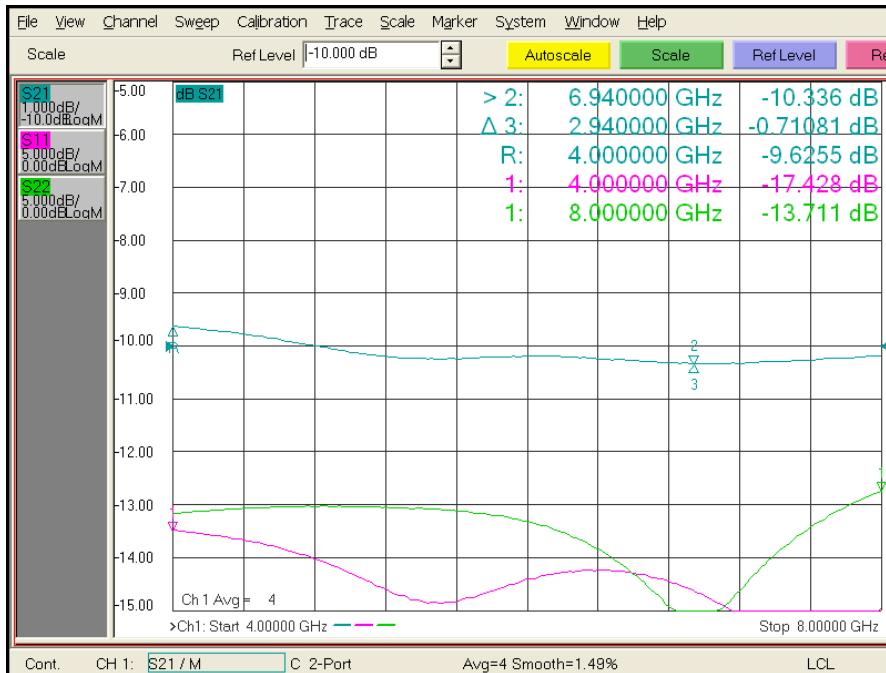


# Typical Characteristics on PVVAN-4080-60-MP

## Insertion Loss and VSWR



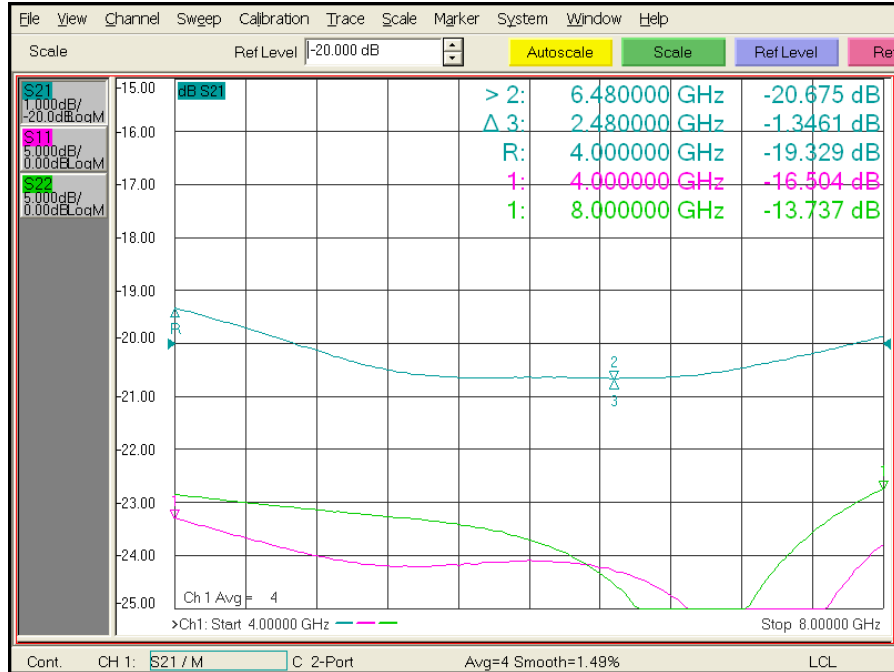
## 10dB Attenuation



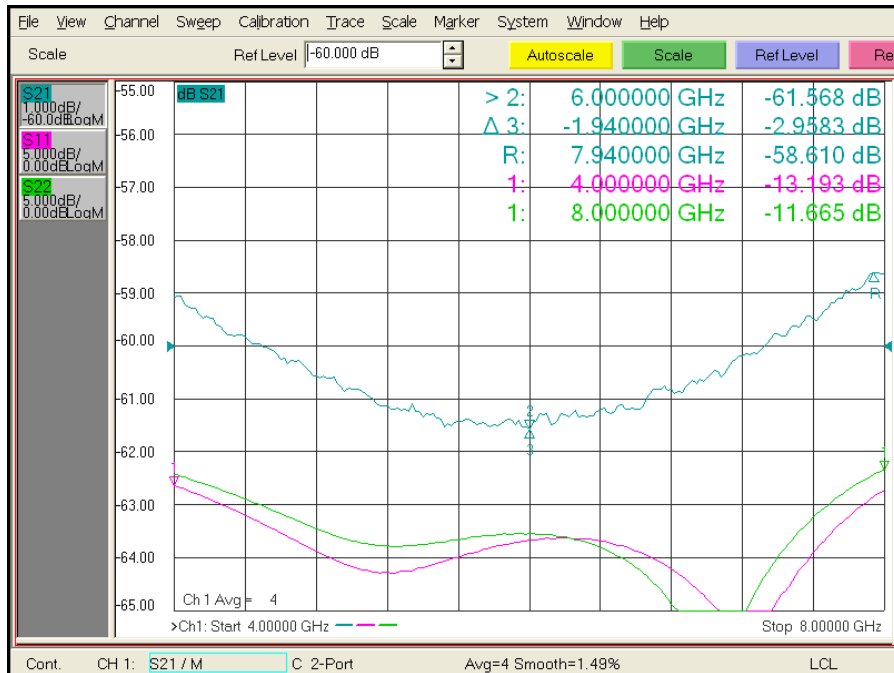


# Typical Characteristics on PVVAN-4080-60-MP

## 20dB Attenuation



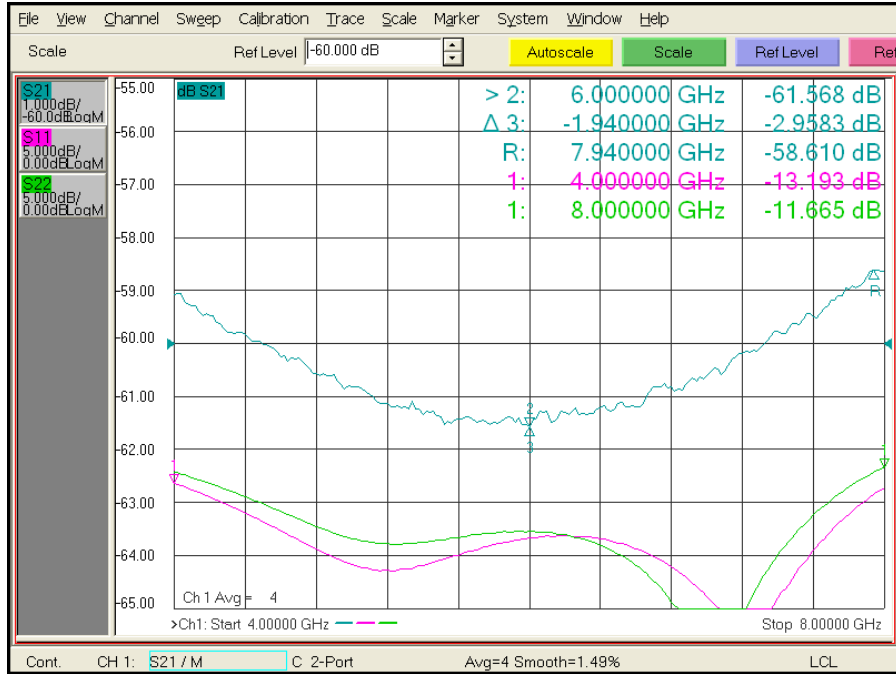
## 40dB Attenuation





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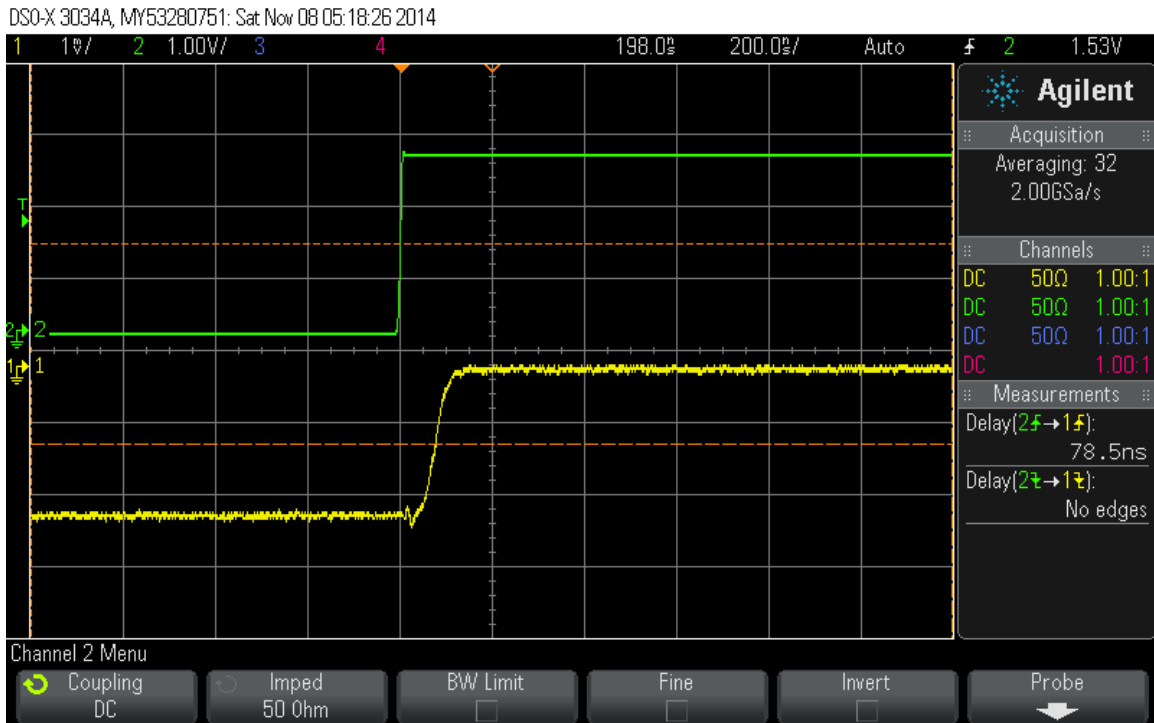
## 60dB Attenuation





# Typical Characteristics on PVVAN-4080-60-MP

## Delay 0 to 60 dB



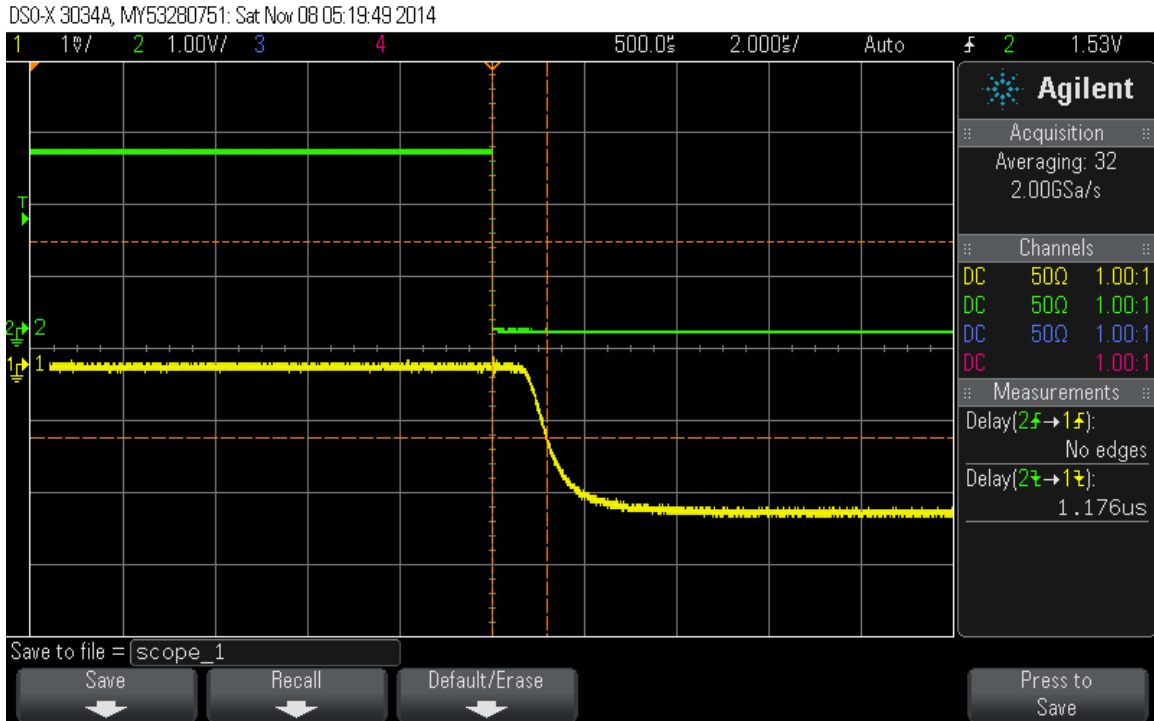
**Channel 1 (Yellow):** RF output

**Channel 2 (Green):** TTL Input from Signal Generator



# Typical Characteristics on PVVAN-4080-60-MP

## Delay 60 to 0 dB



**Channel 1 (Yellow):** RF output

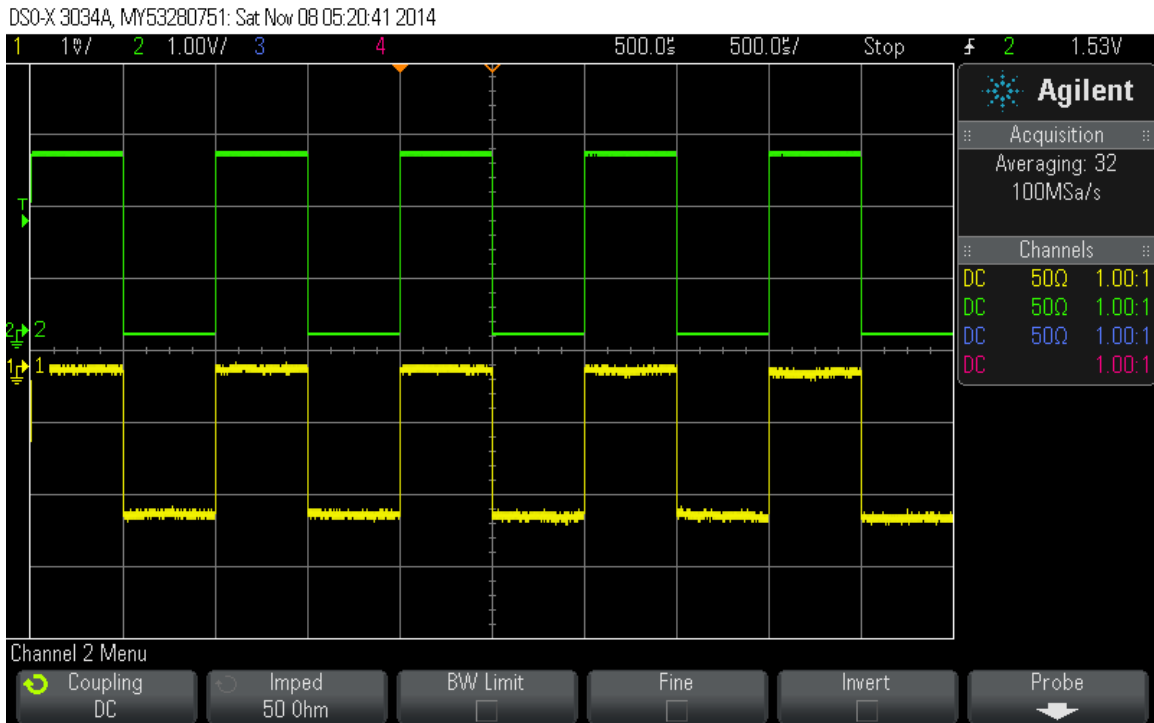
**Channel 2 (Green):** TTL Input from Signal Generator





# Typical Characteristics on PVVAN-4080-60-MP

## Full Pulse



**Channel 1 (Yellow):** RF output

**Channel 2 (Green):** TTL Input from Signal Generator