REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	—	PRELIMINARY	5/8/2025	

DESCRIPTION:

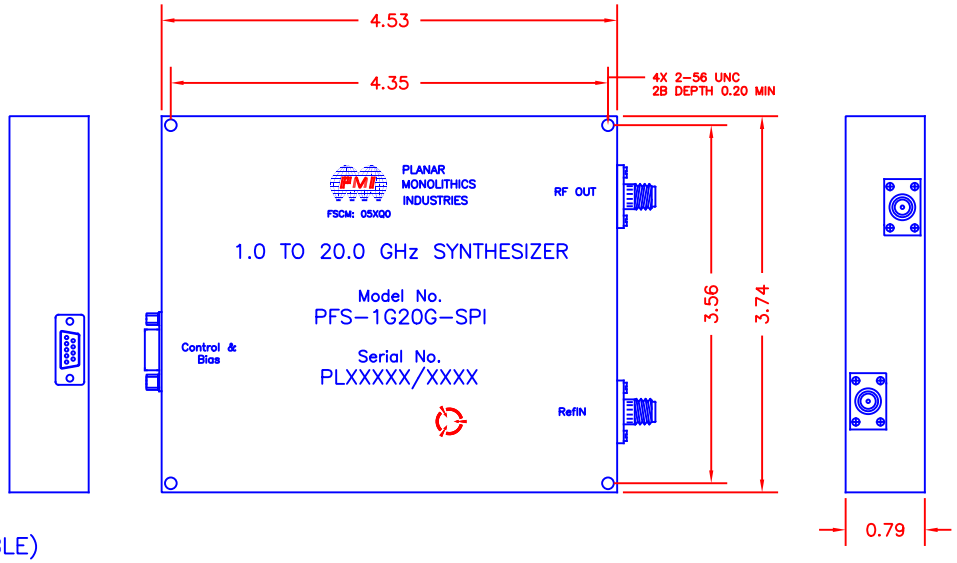
PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER: PFS–1G20G–SPI IS A FREQUENCY SYNTHESIZER THAT OPERATES OVER THE 1.0 TO 20.0 GHz FREQUENCY RANGE. THIS UNIT FEATURES HIGH SPEED, HIGH ACCURACY AND LOW PHASE NOISE.

SPECIFICATIONS:

- FREQUENCY RANGE: ..... 1.0 TO 20.0 GHz
- FREQUENCY STEP SIZE, NOMINAL (LSB): ... 0.2 Hz
- FREQUENCY SWITCH TIME: ..... 200us (SPI MODE) MAX
- OUTPUT POWER: ..... 10 dBm MIN
- FREQUENCY ACCURACY: ..... ±2x10–7 (or same as external ref)
- FREQUENCY STABILITY: ..... ±2x10–7 (or same as external ref)
- SPURIOUS: ..... –65/–60 (TYP/MAX)
- HARMONICS: ..... –5 dBc MAX
- INPUT REF FREQUENCY: ..... 10 MHz
- PHASE NOISE:

	1GHz	5GHz	10GHz	20GHz
dBm/Hz@100Hz	≤–105	≤–91	≤–85	≤–79
dBm/Hz@1kHz	≤–129	≤–113	≤–107	≤–101
dBm/Hz@10kHz	≤–135	≤–122	≤–116	≤–110
dBm/Hz@100kHz	≤–135	≤–122	≤–116	≤–110
dBm/Hz@1MHz	≤–138	≤–125	≤–119	≤–113

- REF INPUT POWER ..... 5±3 dBm
- POWER SUPPLY (V/D) ..... +12/1.4 (WARM–UP) +12/1.2 (STABLE)
- SIZE ..... 4.53" X 3.74" X 0.79"
- CONTROL MODE: ..... SPI
- OPERATE TEMP: ..... –40 to +70°C
- STORAGE TEMP: ..... –55 to +85°C
- WEIGHT: ..... 0.95 kg MAX



ALL DIMENSIONS ARE IN INCHES
TOLERANCES:
X.XX ±0.020
X.XXX ±0.005

PMI CONFIDENTIAL AND PROPRIETARY

- CTL OPTION SPI MODE CONTROL & BIAS DEFINITION

1	+12V	2	+12V	3	LD
4	NC	5	MOSI	6	MISO
7	SCK	8	LE	9	GND
10	GND				

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

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ISO 9001:2008 CERTIFIED

APPROVALS	DATE
DRAWN ASG	5/8/2025
CHECKED	
ISSUED	

TITLE: PRODUCT FEATURE
PFS–1G20G–SPI
1.0 TO 20.0GHz SYNTHESIZER

SIZE	FSCM NO.	DWG NO.	REV.
A	05XQ0	PRELIMINARY	—

SCALE N:S SHEET 1 OF 1