

DESCRIPTION

PMI MODEL NUMBER DGM-18G40G-292FF-DS IS A QUAD PHASE & AMPLITUDE MATCHED mmW (MILLIMETER WAVE) DIPLEXER-GAIN MODULE, DESIGNED TO OPERATE OVER THE 18GHz TO 40GHz FREQUENCY RANGE WITH A SWITCHED OUTPUT. THE BAND SELECT FUNCTION NOT ONLY SWITCHES BANDS, BUT ALSO ALLOWS THE AMPLIFIED BANDS NOT IN USE TO BE TURNED OFF TO REDUCE POWER CONSUMPTION. THIS MODEL IS DESIGNED TO HAVE BETTER THAN 60 dB HARMONIC SUPPRESSION.

SPECIFICATIONS

- FREQUENCY RANGE: 18 to 40 GHz
- GAIN: 3 dB MIN., 7 dB MAX.
AMPLITUDE RIPPLE: ±1.0 dB OVER EVERY 500 MHz BAND STARTING @18GHz EXCLUDING THE CROSSOVER
- INPUT P1dB: -20 dBm MIN.
- INPUT IP3: -10dBm, +5dBm DESIRED
- CHANNEL TO CHANNEL ISOLATION: 50 dB TYP.
- NOISE FIGURE: 12 dB TYP.
- PHASE MATCHING: 40 DEG. RMS, CHANNELS 2,3,4 TO REF. CHANNEL 1, OVER OPERATING TEMP.
- PHASE TRACKING: 0.25 DEG/°C PORT TO PORT TYP
- mmW/uW LIMITER: 30 dBm, CW OR PULSED, 2-40 GHz WITHOUT DAMAGE, ALL INPUTS
- LIMITER 1dB RECOVERY TIME: 250 ns
- SPURIOUS PRODUCTS: -73dBm
- DIPLEXER K BAND 1dB PASSBAND: 18 GHz MIN., 25GHz MAX.
- DIPLEXER Ka BAND 1dB PASSBAND: 28 GHz MIN., 40GHz MAX.
- CROSSOVER BAND: 25GHz MIN., 28GHz MAX.
- CROSSOVER EXCESS ATTENUATION: 5 dB Typ
- STOPBAND ATTENUATION: 60dB
- K BAND STOPBANDS: 900MHz-15GHz, 32GHz-46GHz
- Ka BAND STOPBAND: 900MHz-22GHz
- COMM BAND ATTENUATION: 60dB
- COMM BAND: 900MHz-2.5GHz
- COMM INTERFERENCE IMMUNITY: 36dBm CW, 900 MHz - 2.5 GHz, WITHOUT LIMITER OR AMPLIFIER SATURATION
- COMM INTERFERENCE IMMUNITY: 53dBm PULSED RF, 900 MHz - 2.5 GHz, WITHOUT LIMITER OR AMPLIFIER SATURATION
- VSWR IN PASSBANDS: 2.5 : 1 TYP
- HARMONICS FOR -20dBm: -80dBm 15-40GHz
- BAND SWITCHING TIME, REQUIRED: -1 us Max, 0.5us Typ
- POWER DIVIDER INPUT POWER: 20 dBm Max
- POWER DIVIDER INSERTION LOSS: 15 dB, ±3dB
- POWER DIVIDER PHASE RIPPLE: ±5 DEG RMS
- BAND SELECT PROTECTION CIRCUITRY: ±15 V
- POWER SUPPLY PROTECTION CIRCUITRY ON BOTH ±6.0 VDC SUPPLES: ±15 V
- POWER SUPPLY VOLTAGE: ±6.0 VDC
- POWER CONSUMPTION REQUIRED: 5W Max
- CONNECTORS: 2.92mm FEMALE
- CONTROL CONNECTOR: (MDM-9PSP) 9 PIN MICRO-D SHIPPED WITH MATING CONNECTOR
- SIZE: 3.0" X 8.0" X 0.75"
- 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

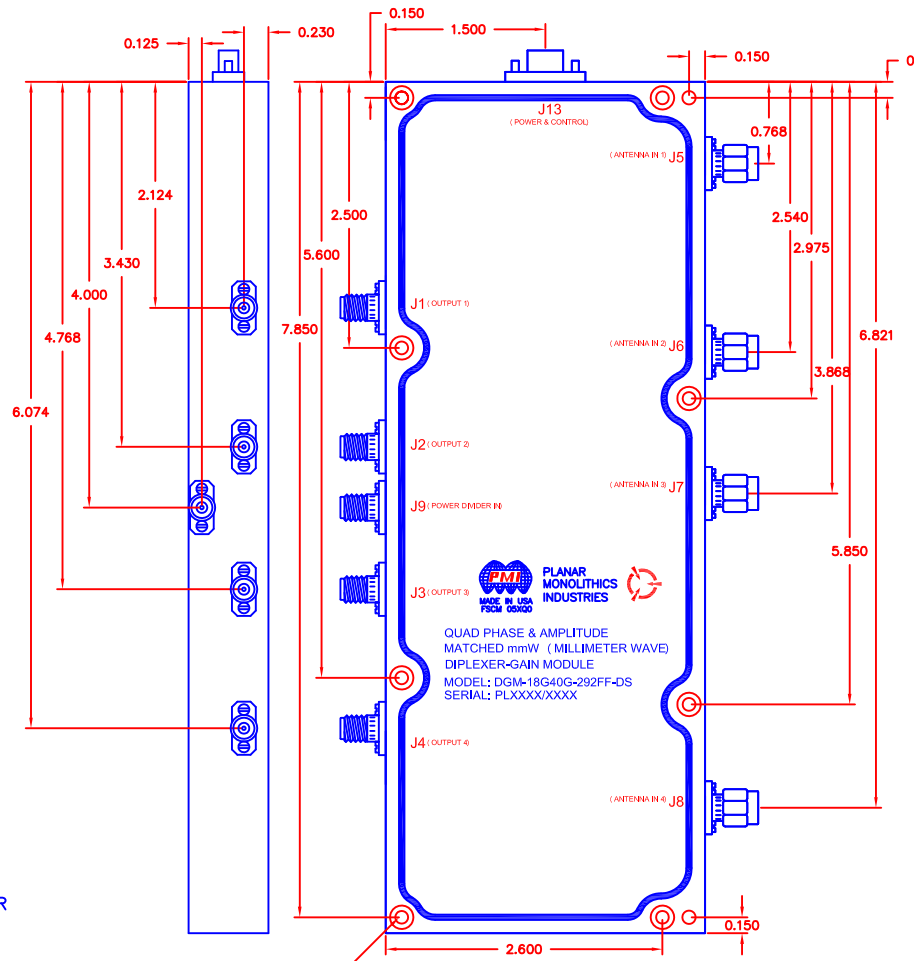
- TEMPERATURE: -25°C TO +65°C (REQ. OPERATING)
-40°C TO +100°C (STORAGE)
- THERMAL SHOCK: 5°C/MIN OVER OPERATING TEMP., 5 CYCLES
- HUMIDITY: MIL-STD-202G, METHOD 103B COND. B
- MOISTURE: MIL-STD-202G, METHOD 106G
- ACCELERATION: 30g, MIL-STD-202G, METHOD 212A, MODIFIED COND. A
- VIBRATION (Sinusoidal): 3g, 5 TO 500 Hz, 20 MIN. PER AXIS AS DEFINED
IN MIL-STD-202G, METHOD 204D, MODIFIED COND. B
- VIBRATION (Random): 5.35g RMS, 0.02 g²/Hz, 15 MIN. PER AXIS AS DEFINED
MIL-STD-202G, METHOD 214A, COND. A
- LOW FREQUENCY: 1 nT, 0-1 kHz, MEASURED 10 cm FROM BOARD
- MAGNETIC FIELD
- MAGNETIC RADIATION: MIL-STD-461F, RE101
- CONDUCTED EMISSIONS: MIL-STD-461F, CE101, MIL-STD-461F, CE102
- CONDUCTED RADIATIONS: MIL-STD-461F, CS101, MIL-STD-461F, CS106
- RADIATED EMISSIONS: MIL-STD-461F, RE102, FIXED WING INTERNAL, <25 m, 100 kHz - 10 GHz
- ESD: MIL-STD-1686C, PINS ONLY, HMB CLASS 1, DIRECT CONTACT, NON-OPERATING

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

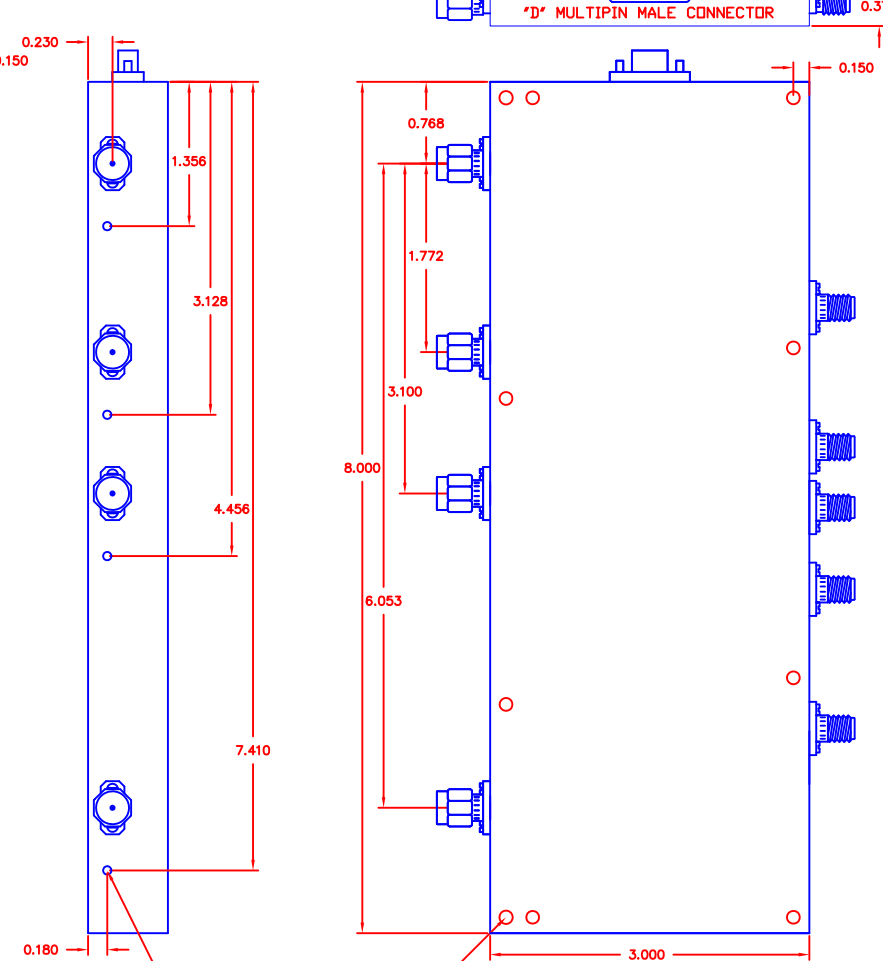
J13	CONNECTOR PIN-OUT
PIN	FUNCTION
1	GND
2	+6
3	GND
4	-6
5	GND
6	GND
7	GND
8	BAND SELECT
9	NO CONNECTION

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	10/14/14	

BAND SELECT LOGIC	
0	18-25GHz
1	28-40GHz



DRILL Ø0.120 THRU, CSINK Ø0.225 100°, 8 PLACES



ALIGNMENT HOLES REAMED 2MM, 0.20 DEEP, 4 PLACES

ALIGNMENT HOLES REAMED 1/8 THRU, 2 PLACES

PMI CONFIDENTIAL & PROPRIETARY

PLANAR MONOLITHICS INDUSTRIES, INC.

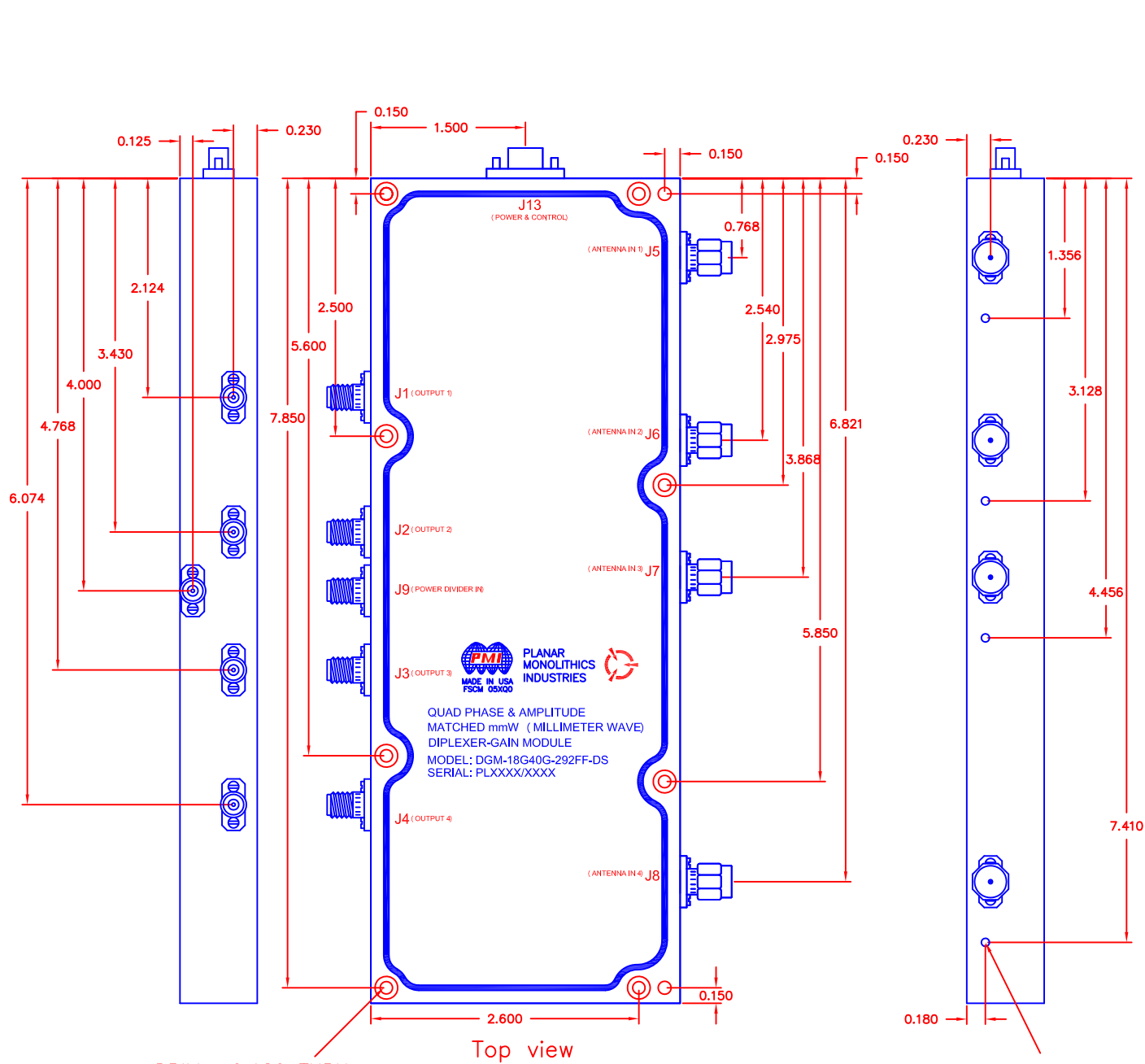
7311-F GROVE ROAD
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ISO 9001 CERTIFIED



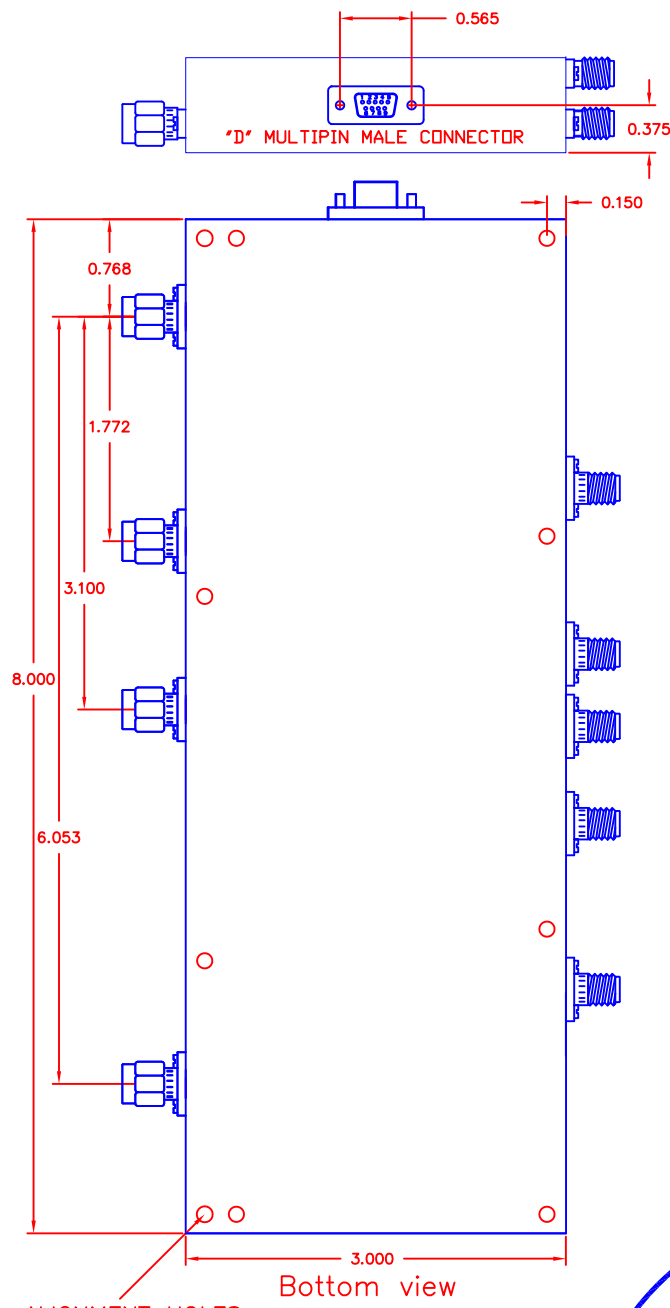
APPROVALS		DATE	TITLE			
DRAWN <i>PJK</i>		10/14/14	PRODUCT FEATURE			
CHECKED			DGM-18G40G-292FF-DS			
ISSUED			QUAD PHASED & AMPLITUDE MATCHED MMW (MILLIMETER) WAVE DIPLEXER-GAIN MODULE			
SIZE	FSCM NO.	DWG NO.	REV.			
A	05XQ0	27018191	A1			
SCALE N:S			SHEET 1 OF 3			

ALL DIMENSIONS ARE IN INCHES
TOLERANCES:
X.XX ±0.010
X.XXX ±0.005

REVISIONS				
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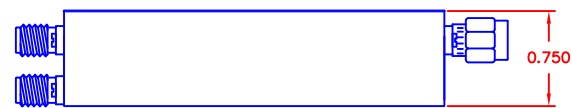


Top view



Bottom view

DRILL \varnothing 0.120 THRU,
CSINK \varnothing 0.225 100°,
8 PLACES



ALIGNMENT HOLES
REAMED 2MM, 0.20 DEEP,
4 PLACES

ALIGNMENT HOLES
REAMED 1/8 THRU,
2 PLACES

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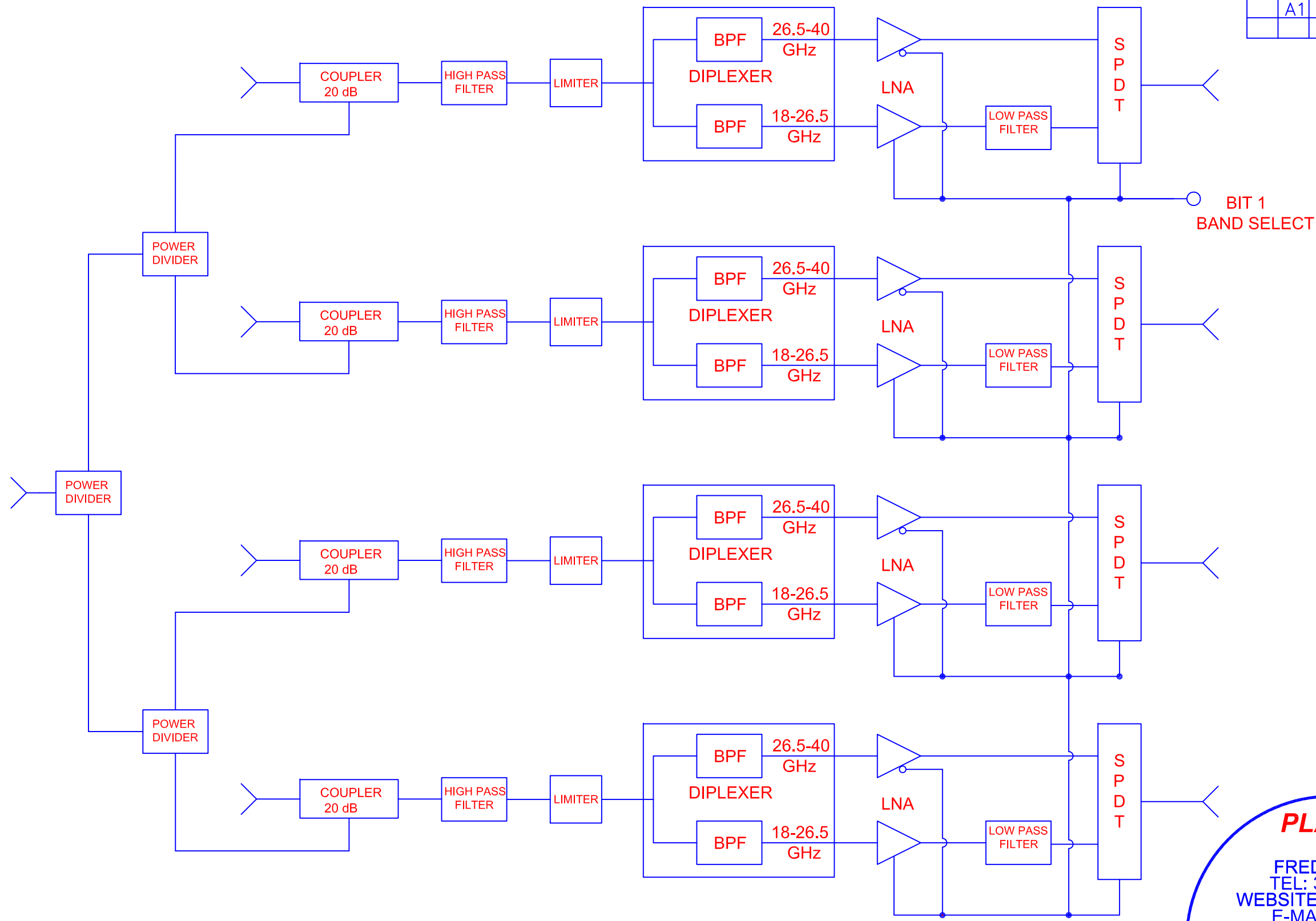
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ALL DIMENSIONS ARE IN INCHES
TOLERANCES:
X.XX ±0.010
X.XXX ±0.005

APPROVALS		DATE	TITLE			
DRAWN JGS		3/7/14	PRODUCT FEATURE			
CHECKED			DGM-18G40G-292FF-DS			
ISSUED			QUAD PHASED & AMPLITUDE MATCHED MMW (MILLIMETER) WAVE DIPLEXER-GAIN MODULE			
SIZE	FSCM NO.	DWG NO.	REV.			
A	05XQ0	27018191	A1			
SCALE N:S			SHEET 2 OF 3			

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	10/14/14	



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APPROVALS		DATE	TITLE PRODUCT FEATURE		
DRAWN JGS		3/21/13	DGM-18G40G-292FF-DS		
CHECKED			QUAD PHASED & AMPLITUDE MATCHED MMW (MILLIMETER) WAVE DIPLEXER-GAIN MODULE		
ISSUED			SIZE A	FSCM NO. 05XQ0	DWG NO. 27018191
			SCALE N:S	SHEET 3 OF 3	
				REV. A1	