

DESCRIPTION

PMI MODEL NO. PEC2-140M180M-80dB IS A 140 MHz TO 180 MHz LIMITING AMPLIFIER THAT PROVIDES A LIMITED OUTPUT OF 10 dBm ± 2.0 dB OVER AN INPUT POWER RANGE OF -70 TO +5 dBm CW. THIS MODEL HAS BEEN DESIGNED TO HAVE LESS THAN 15 DEGREES OF PHASE SHIFT OVER THE INPUT POWER RANGE OF -70 TO +5 dBm AND UNIT TO UNIT PHASE TRACKING OF LESS THAN 10 DEGREES. THE HOUSING MEASURES 1.72" (39.6 mm) X 1.11" (28.2 mm) X 0.26" (6.6 mm) AND IS SUPPLIED WITH SMA FEMALE CONNECTORS.

SPECIFICATIONS

1.1 LIMITING LEVEL: _____	+10 dBm MIN @ (-70 TO 5 dBm, 140 TO 180 MHz, -54 TO 95° C)
1.2 LIMITING LEVEL: _____	+7 dBm MIN @ (5 TO 10 dBm, 140 TO 180 MHz, -54 TO 95° C)
1.3 LIMITING LEVEL: _____	4 dB pp MAX @ (-70 TO 5 dBm, 140 TO 180 MHz, -54 TO 95° C)
1.4 LIMITING LEVEL: _____	10 dB pp MAX @ (5 TO 10 dBm, 140 TO 180 MHz, -54 TO 95° C)
1.5.1 INPUT LEVEL VARIATION VS IN/OUT PHASE DIFFERENCE: _____ @ (145 TO 175 MHz & -54° C TO 95° C)	10° pp MAX (@-63 TO 0 dBm) (SEE FIG-1.1) 15° pp MAX (@-70 TO 5 dBm)
1.5.2 FREQUENCY VS PHASE TRACKING: _____ @ (-70 TO 5 dBm & -54° C TO 95° C)	5° pp MAX (@-63 TO 0 dBm) (SEE FIG-1.2) 10° pp MAX (@-70 TO 5 dBm)
1.5.3 TEMPERATURE VS PHASE: _____ @ (-70 TO 5 dBm & 145 TO 175 MHz)	5° pp MAX (@-63 TO 0 dBm) 10° pp MAX (@-70 TO 5 dBm)
1.6 HARMONICS (UPTO 5TH HARMONIC): _____	-10 dBm MAX
1.7 INPUT VSWR: _____	1.5:1 MAX @ (110 TO 210 MHz)
1.8 OUTPUT VSWR: _____	2.0:1 MAX @ (110 TO 210 MHz)
1.9 DC POWER SUPPLY: _____	+5 V ±2% @ 50 mA MAX -5 V ±2% @ 125 mA MAX
1.10 INPUT POWER: _____	18 dBm MAX
2.1 SIZE: _____	1.72" X 1.11" X 0.26" SEE FIG-2
2.2 WEIGHT: _____	34 g TYP, 45 g MAX
2.3 CONNECTORS: _____	REMOVABLE SMA (FEMALE)
2.4 FINISH: _____	NICKEL PLATED

ENVIRONMENTAL RATINGS

3.1 TEMPERATURE: _____	-54 °C TO +95 °C (OPERATING) -54 °C TO +125 °C (STORAGE)
3.3 VIBRATION: _____	MIL-STD-202F, METHOD 214A SEE FIG-3
3.4 SHOCK: _____	15 g 11 ms HALF SIN WAVE, MIL-STD-202F, METHOD 213B 3 AXIS, 6 DIRECTIONS
3.5 ACCELERATION: _____	±10 g, MIL-STD-202F, METHOD 212A COND. C 3 AXIS, 6 DIRECTIONS
3.6 HUMIDITY: _____	100% rh, MIL-STD-202F, METHOD 106E
3.7 ALTITUDE: _____	0 - 79000 ft, MIL-STD-202F, METHOD 105C COND. C
3.8 TEMPERATURE CYCLE: _____	MIL-STD-202, METHOD 107G -54° C: 30 MINUTES TRANSITION TIME: 15 SECONDS MAX +95° C: 30 MINUTES CYCLING: 25 CYCLES

NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE

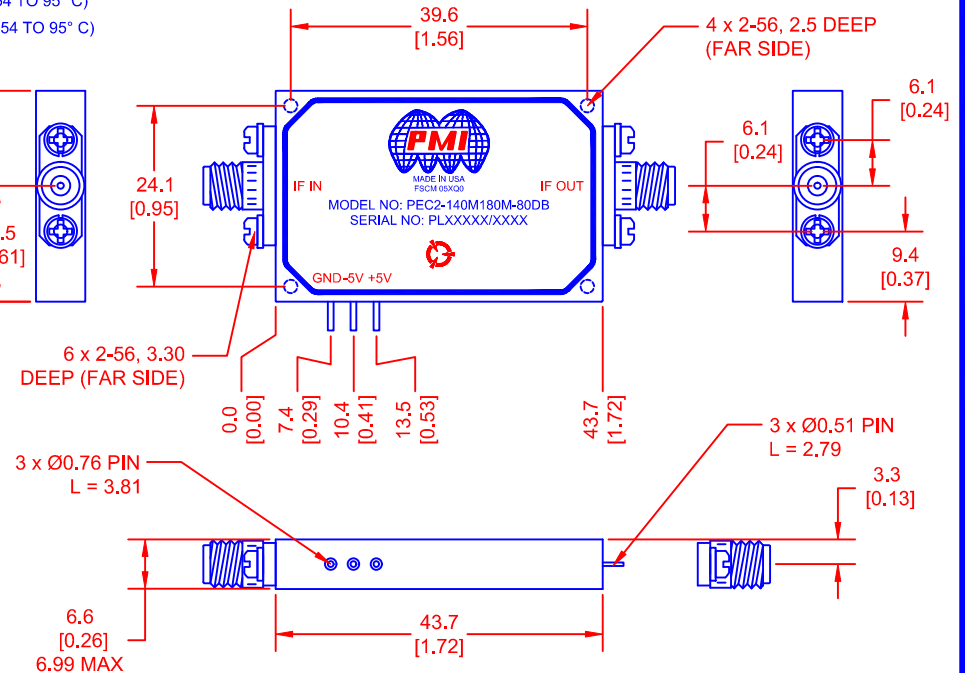
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	-	PRELIMINARY	12/8/15	PK

MECHANICAL OUTLINE

FIG-2



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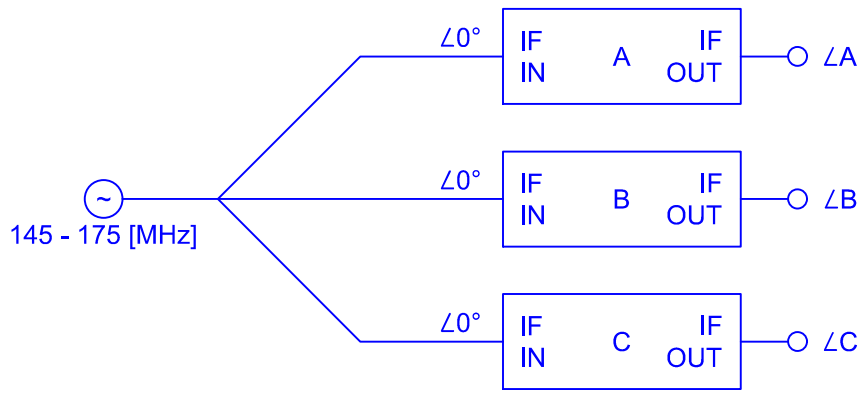
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APPROVALS					TITLE					
APPROVALS	DATE	PRODUCT FEATURE			PEC2-140M180M-80DB		SCALE	REV.		
DRAWN	MEB	12/8/15	SIZE	FSCM NO.	DWG NO.	PRELIMINARY	REV.			
CHECKED			A	05XQ0			-			
ISSUED			SCALE	N:S	SHEET	1 OF 5				

ALL DIMENSIONS
ARE IN mm [INCHES]
TOLERANCES:
±0.3 [0.01]

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$\phi = \angle A - \angle B$

OR

$\phi = \angle A - \angle C$

($\angle B - \angle C = N/A$)

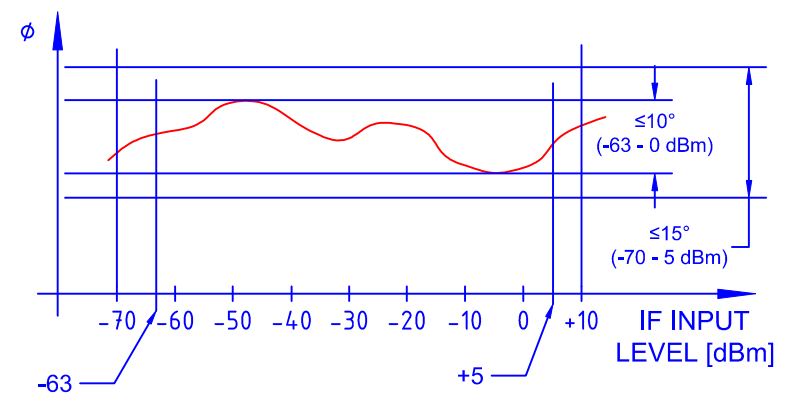
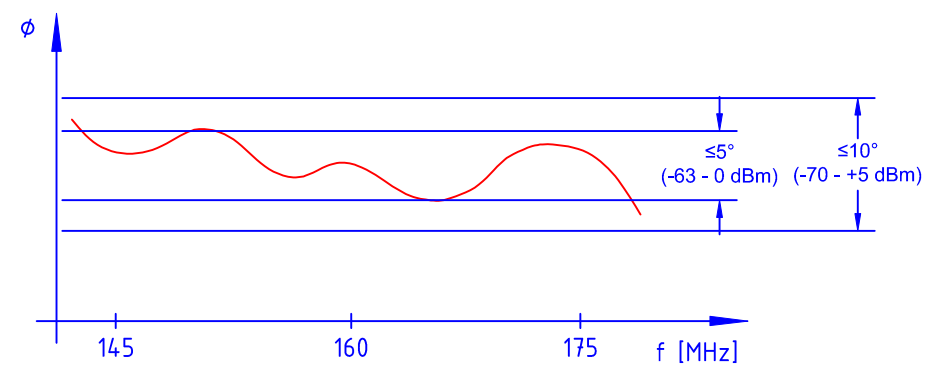
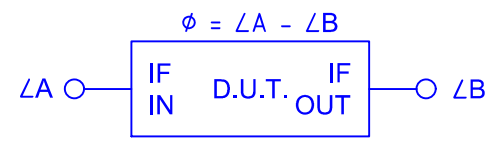


FIG 1.1 IN/OUT PHASE DIFFERENCE

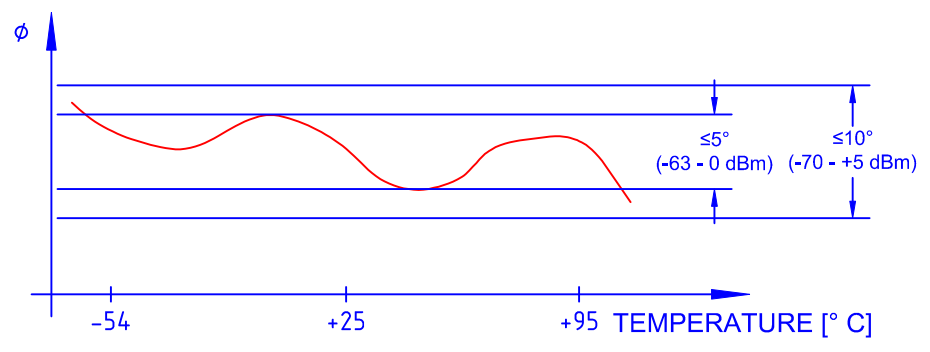


FIG1.2 PHASE TRACKING

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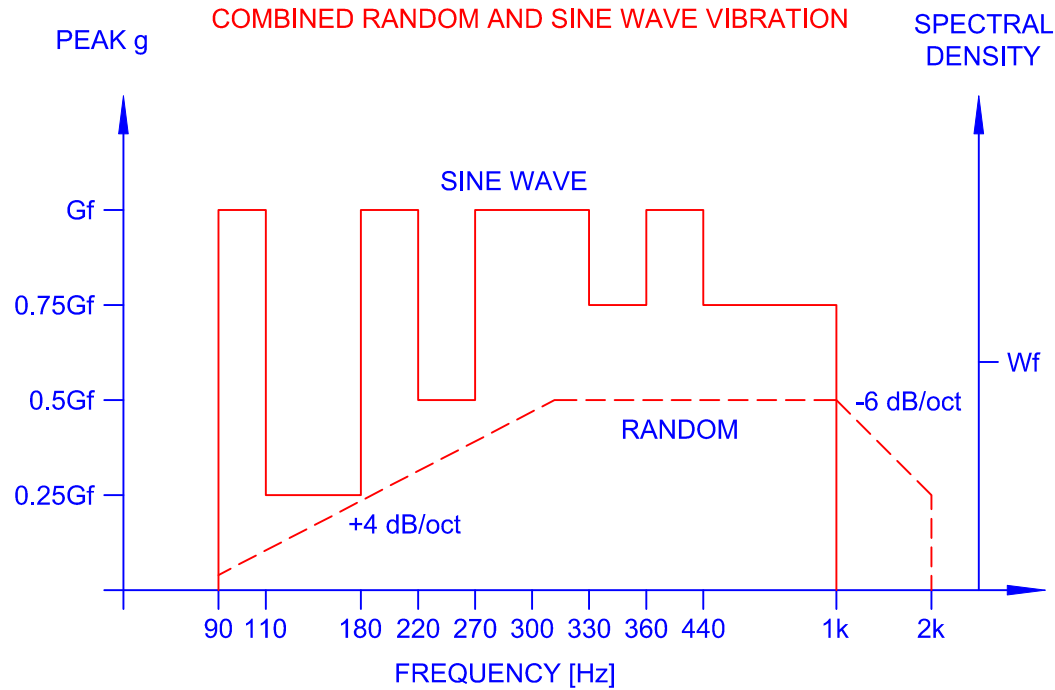
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APPROVALS		DATE	TITLE		
DRAWN <i>M&B</i>		12/8/15	PRODUCT FEATURE PEC2-140M180M-80DB		
CHECKED			SIZE A	FSCM NO. 05XQ0	DWG NO. PRELIMINARY
ISSUED			SCALE N:S		REV. -
				SHEET	2 OF 5

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	-	PRELIMINARY	12/8/15	



Gf = ±60 [g]
Wf = 0.30 [g²/Hz]
3 MINUTES

FIG-3B

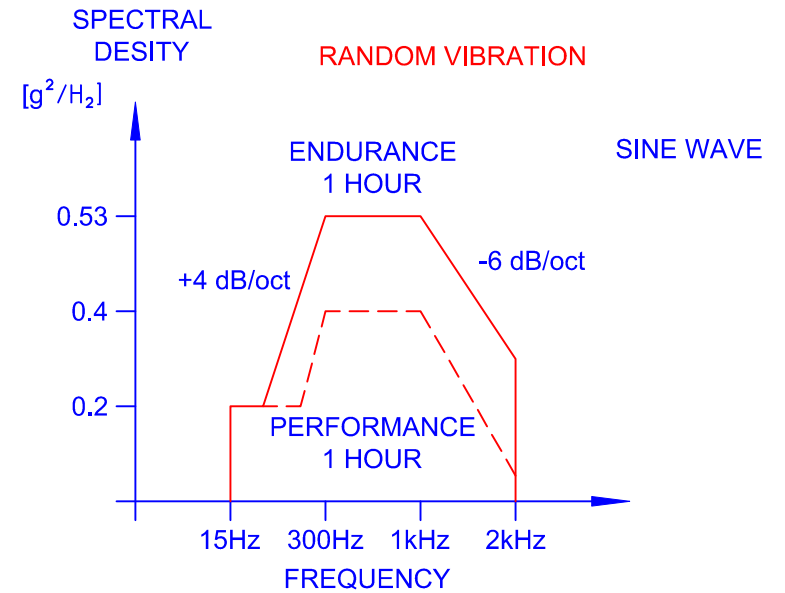


FIG-3A

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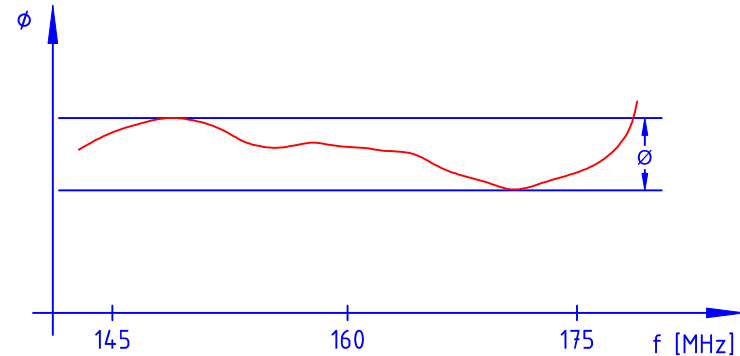
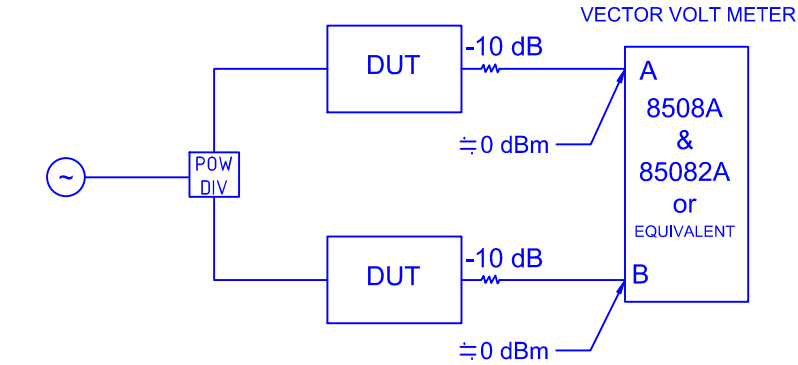
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DRAWN		12/8/15	PRODUCT FEATURE PEC2-140M180M-80DB		
CHECKED			SIZE	FSCM NO.	DWG NO.
ISSUED			A	05XQ0	PRELIMINARY
			SCALE	N:S	SHEET 3 OF 5

4. TEST DATA
 FOLLOWING TEST DATA SHALL BE PROVIDED PER SET (3 UNITS) UPON DELIVERY

- 4.1 PHASE TRACKING
- * SEE TEST DIAGRAM BELOW.
 - * PHASE SHALL BE CALIBRATED WITHOUT DUT BEFORE TESTING
 - * TEST SHALL BE PERFORMED AT FOLLOWING 15 POINTS
 - INPUT LEVEL: -70, -63, -30, 0, +5 dBm
 - Tc: -54°, +95° C, AND ROOM TEMP
 - * RESULTS SHALL BE PROVIDED AS A SEPT PLOT (SEE BELOW)
 - * JUDGEMENT SHALL BE MADE IN ACCORDANCE TO 1.5.2 HEREIN



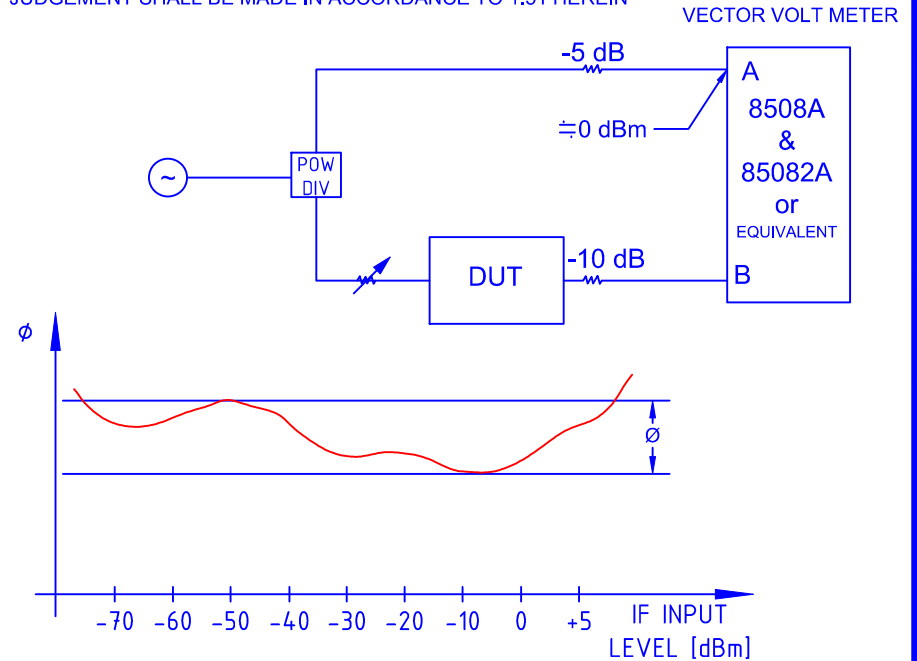
≅ MEANS APPROXIMATION

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REVISIONS				
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- 4.2 IN/OUT PHASE DIFFERENCE
- * SEE TEST DIAGRAM BELOW
 - * PHASE SHALL BE CALIBRATED WITHOUT DUT BEFORE TESTING
 - * TEST SHALL BE PERFORMED AT FOLLOWING 9 POINTS
 - FREQUENCY: 145, 160, 175 MHz
 - Tc: -54°, +95° C, AND ROOM TEMP
 - * RESULT SHALL BE PROVIDED AS A SWEEPED PLOT (SEE BELOW)
 - * JUDGEMENT SHALL BE MADE IN ACCORDANCE TO 1.51 HEREIN



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APPROVALS		DATE	TITLE		
DRAWN <i>M&B</i>		12/8/15	PRODUCT FEATURE PEC2-140M180M-80DB		
CHECKED			SIZE A	FSCM NO. 05XQ0	DWG NO. PRELIMINARY
ISSUED			SCALE N:S	SHEET 4 OF 5	REV. -

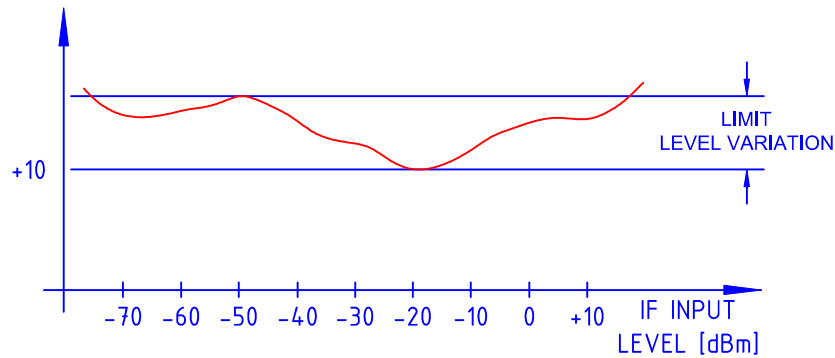
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	-	PRELIMINARY	12/8/15	PK

- 4.3 IN/OUT LEVEL CHARACTERISTIC
- * TEST SHALL BE PERFORMED AT FOLLOWING 9 POINTS
 - FREQUENCY: 145, 160, 175 MHz
 - TC: -54°, +95° C, AND ROOM TEMP
 - * RESULT SHALL BE PROVIDED AS A SWEPT PLOT (SEE BELOW)
 - * JUDGEMENT SHALL BE MADE IN ACCORDANCE TO 1.1 - 1.4

- 4.4 OTHER REQUIREMENTS
- FOLLOWING READ & RECORD WORST CASE DATA AT ROOM TEMPERATURE SHALL BE PROVIDED UPON DELIVERY

- 1.6 HARMONICS
- 1.7 INPUT VSWR
- 1.8 OUTPUT VSWR
- 1.10 DC POWER SUPPLY (CONSUMPTION CURRENT)

OUTPUT LEVEL
(dBm)



5. INCOMING INSPECTION
COSMETICS, SIZE, TEST DATA

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ISSUED			A	05XQ0	PRELIMINARY
			SCALE	N:S	SHEET 5 OF 5