RM 168

QUALITY CONFORMANCE INSPECTION

1.0 Production Tests

1.1 Requirements (All tests performed at both level 1 and level 2). Numbers ( ) end of life.

Test Method MIL-STD-1311	Test	Conditions	Symb.	Limit min.	Limit max.	Units
4.8.5	Holding			48		hrs.
4223	Tuner Torque	25°c	T		10	oz-i
1301	Heater Current		If		3	amps
4303	Warm-up Time		tk	180		sec.
4250	Power Output	Level 1 F1,F2,F3	Po	(7.2)8	12	KW
4250	Power Output	Level 2 F1,F2,F3	Po	10	15	KW
4308	R.F. Bandwidth	F1,F2,F3	BW		3(4)	MHz
4315	Pulse Stability	F2	M.P.		0.25(0.5)	%
4308	Side Lobe Ratio	F1,F2,F3	S.L.	(8)10		db
4310	Pulling Factor	VSWR 1.5:1 F1,F2,F3	Δf		5	MHz
4311	Pushing Factor	F1,F2,F3			0.75	MHz/
4223	Tunable Freq.	Range 1		9.253 9.265	9.318 9.330	GHz
4223	Tunable Freq.	Range 2		9.6	9.8	GHz
4304	R.F. Pulse Width		tp	.85	1.15	μsec
4304	" Rise Time		tr		0.1	μsec
4304	" Fall Time		tf		0.2	μsec
4306	Pulse Voltage	Level 1 F1,F2,F3	epy	5.4	6.1	KV
4306	Pulse Voltage	Level 2 F1,F2,F3	epy	5.4	6.5	KV

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Input power (peak)
Input power (mean) (see note 3)
Duty cycle
Pulse duration
Rate of rise of voltage pulse (see note 4)
Anode temperature (see note 5)
V.S.W.R. at the output coupler

X TYPICAL OPERATION

Operational Conditions	1	2	
Heater voltage	5.6	5.6	V
Anode current (peak)	3.8	4.8	a
Pulse duration	1.0	1.0	μs
Pulse repitition rate	1000	1000	pps
Rate of rise of voltage pulse	50	50	KV/μs
Typical Performances			
Anode voltage (peak)	6.0	6.2	KV
Output power (peak)	10	13	KW
Output power (mean)	10	13	W

TEST CONDITIONS AND LIMITS
The magnetron is tested to comply with the following electrical specification

X Test Conditions

Heater voltage (for test)	5.6	5.6	V
Anode current (mean)	.013	.013	a
Duty Cycle	.0035	.0035	—
Pulse duration (see note 6)	1.0	1.0	μs
V.S.W.R. at the output coupler	1.3:1	1.3:1	
Rate of rise of voltage pulse (see note 4)	50	50	KV/μs
Limits			
Anode voltage (peak)			
Output power (mean)			
Frequency (see note 7)			
R.F. bandwidth at ½ power			
Frequency pulling (v.s.w.r. not less than 1.5:1)			
Stability (see note 8)			
Cold impedance			
Heater current			
Temperature coefficient of frequency			

same

Output power (peak)
Output power (mean) (see note 3)
Duty cycle
Pulse duration
Rate of rise of voltage pulse (see note 4)
Anode temperature (see note 5)
V.S.W.R. at the output coupler

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TYPICAL OPERATION

Operational Conditions

Heater voltage
Anode current (peak)
Pulse duration
Pulse repitition rate
Rate of rise of voltage pulse

Typical Performances

Anode voltage (peak)
Output power (peak)
Output power (mean)

TEST CONDITIONS AND LIMITS

The magnetron is tested to comply with the following electrical specification

Test Conditions

Heater voltage (for test)
Anode current (mean)
Duty Cycle
Pulse duration (see note 6)
V.S.W.R. at the output coupler
Rate of rise of voltage pulse (see note 4)

Limits

	OSC 1		OSC 2		
	MIN	MAX	MIN	MAX	
Anode voltage (peak)	5.4	6.1	5.4	6.5	KV
Output power (mean)	8.0	12.0	10.0	15.0	KW
Frequency ~~(see note 7)~~ (See note 7)	~~9300~~	~~9500~~	~~9700~~	~~9900~~	~~MHz~~
R.F. bandwidth at ½ power	—	3.0	—	3.0	mhz
Frequency pulling (v.s.w.r. not less than 1.5:1)	—	5.0	—	5.0	mhz
Stability (see note 8)	—	0.25	—	0.25	%
~~Cold impedance~~					
Heater current	—	3.0	—	3.0	amps
~~Temperature coefficient of frequency~~					
	9253	9330	9600	9800	mhz

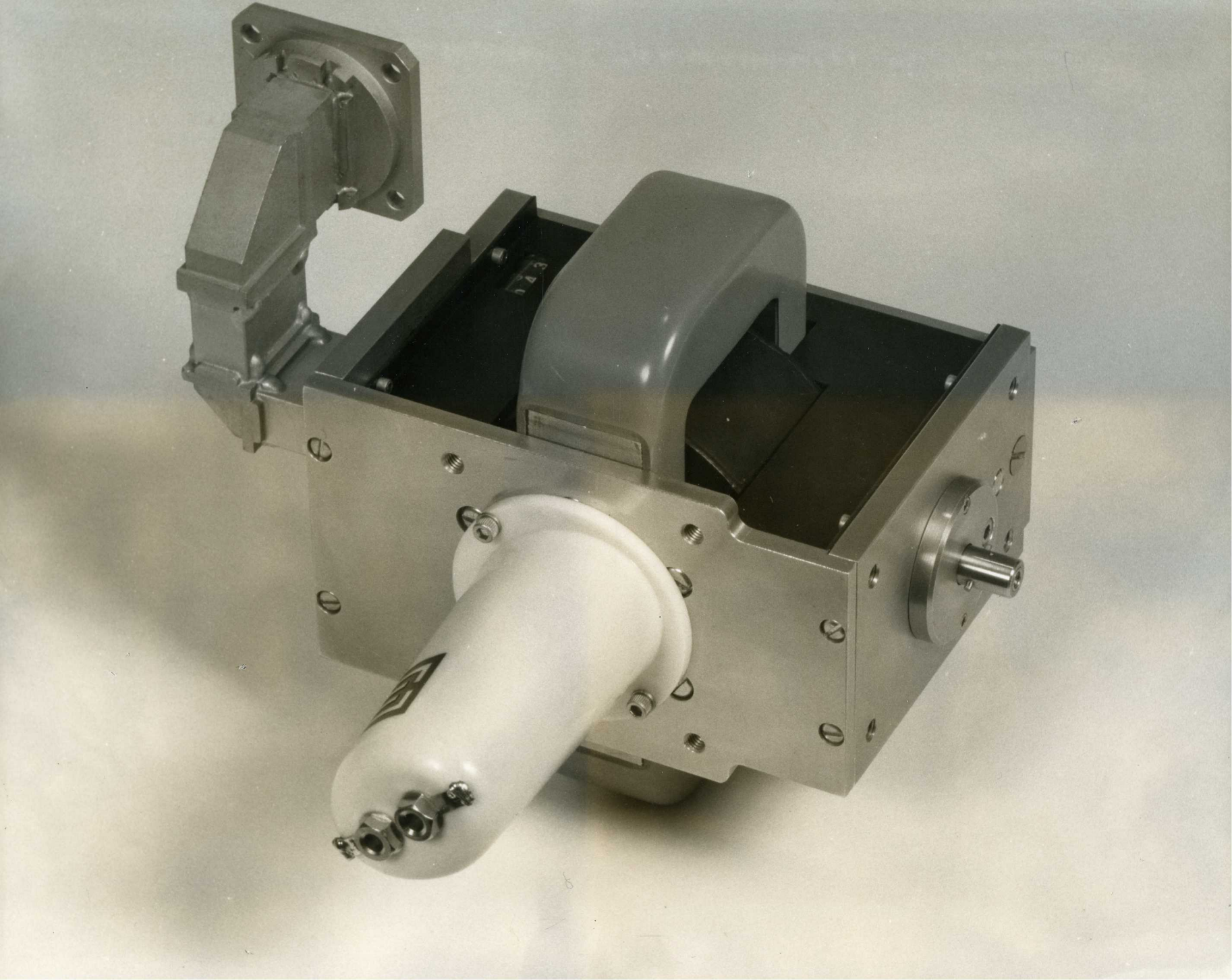
III - TEST CONDITIONS

TEST CONDITION 1

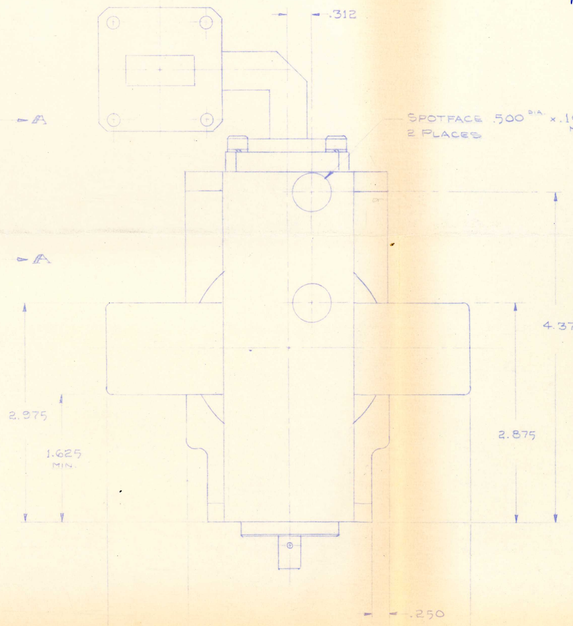
Unless otherwise specified all tests shall be conducted under the operating conditions of T.C.1.

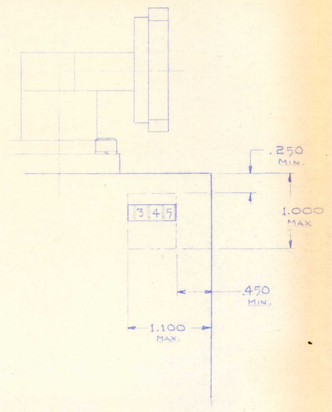
Parameter	Ef	tpc	Du	tsrv	Ib	epy
Unit	V	µsec	--	µsec	amp peak	KV
Tolerance	±.6	±.15	--	+0.1 -0.03	--	--
Level 1	5.6	1.0	0.0035	0.16	3.8	5.4 to 6
Level 2	5.6	1.0	0.0035	0.16	4.8	5.4 to 6

F1 = 9.3 GHz
F2 = 9.6 GHz
F3 = 9.8 GHz



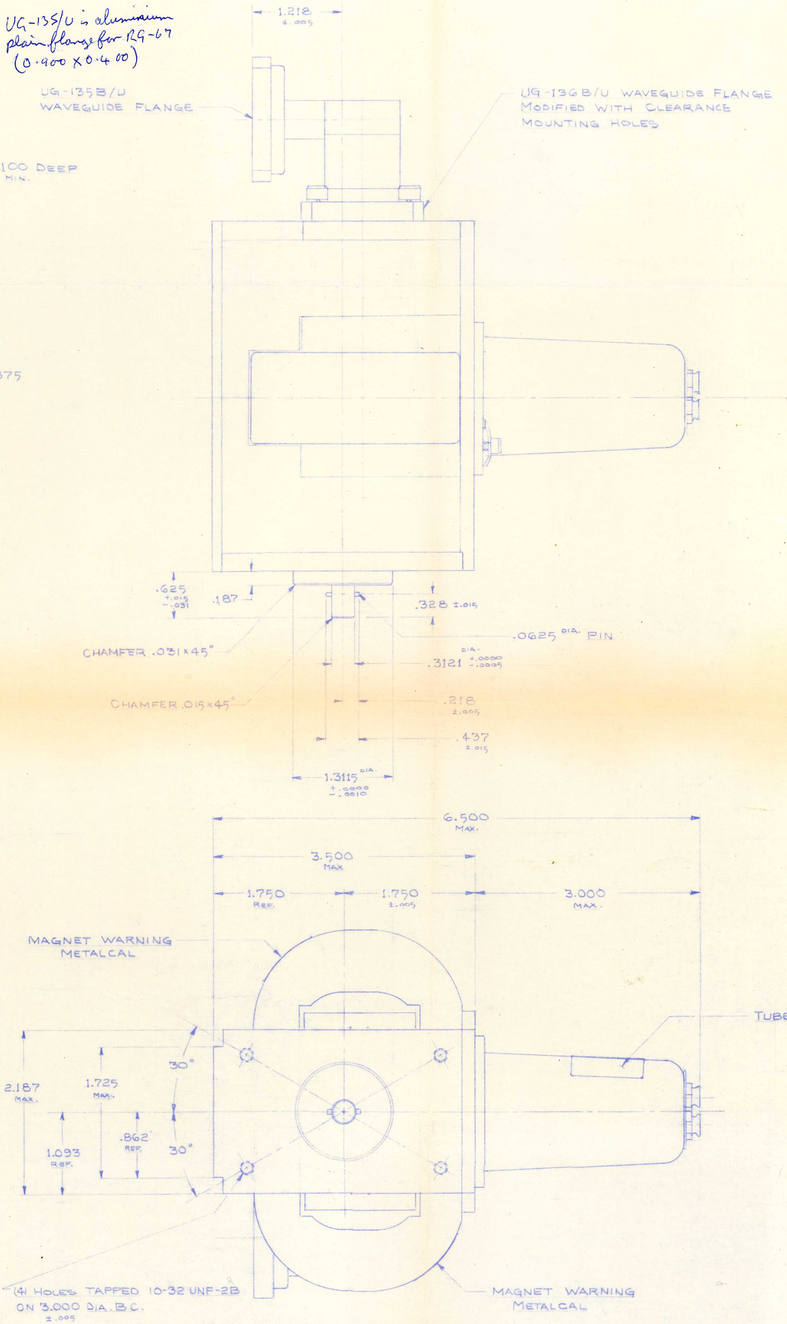
UG-135/U is aluminum plain flange for RG-67 (0.900 X 0.400)

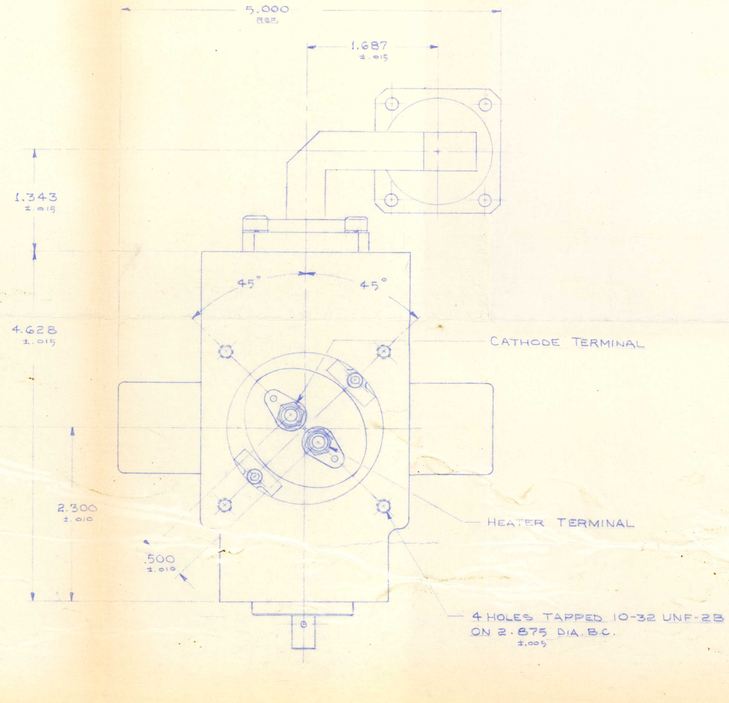




VIEW A-A

FREQUENCY INDICATOR DETAIL





DIMENSIONS IN INCHES	MAT'L	OUTLINE DRAWING	CODE IDENT. NO. 15354	
	DR: [illegible] 2-1-78	SCALE: FULL	EEV, INC. RELMAG DIVISION 1240 HIGHWAY 1 WATSONVILLE, CA 95076	NO. REQD/UNIT
	CH: [illegible] 2-1-78			SEE ASSY
	APP: [illegible] 2-1-78			DWG. NO. RM-1GB-1