

AVANTEK Octave Band YIG Tuned Oscillators

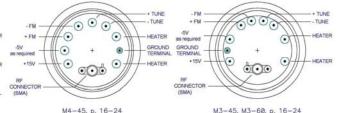
Courtesy of John Miles, KE5FX

Features

- Full 1.0 to 18 GHz Coverage
- Rugged Hermetic Packaging
- Reliable Thin Film Construction
- ± 0.05% to ±0.2% Tuning Linearity
- 0° to 65 °C, Temperature Range

rage aging struction g Linearity e Range Application g Linearity as required as required

A-45, B-45, C-45, C-38, p. 16-2



DESCRIPTION

Avantek Octave Band Series YIG-tuned fundamental transistor oscillators are compact and lightweight and are cost-effective for commercial instrument applications.

They are built using the same Avantek thin-film construction and hermetic packaging that has proven itself ultimately reliable under severe military and aerospace environmental conditions. This family of oscillators is designed for wideband applications in receivers and instruments where tuning linearity and spectral purity are crucial.

They make ideal local oscillators for frequency-agile receivers and spectrum analyzers and are excellent as signal sources for microwave sweep generators and synthesizers.

The tuning curves (Ituning vs. Fout) for this series of YTO's are linear and will deviate from the ideal straight line only

 \pm 0,05% to \pm 0,2% (typically).

The power output remains flat within \pm 1.5dB to \pm 3.0dB over the entire tuning range

These oscillators have compatible tuning port characteristics of 20 MHz/mA and 5 kHz bandwidth up to 12.4 GHz.

This helps to simplify the design of multiband equipment and minimizes the number of current drives necessary.

All Octave Band Series oscillators have a low inductance FM tuning in addition to the main tuning coil.

This coil is in close proximity to the YIG sphere and is used to fine-tune the oscillator frequency, to phase lock the YTO or to frequency modulate the output signal.

The sensitivity of this port is much less than that of the main tuning coil, but it has a much wider 3 dB bandwidth and permits input modulation or control signals to deviate the output frequency by as much as 15 to 100 MHz at a rate up to 1 MHz

ELECTRICAL AND PERFORMANCE SPECIFICATIONS

Guaranteed specifications at 0° to +65°C Case Temperature (Unless Otherwise Noted)

Model No.	AV-7104	AV-7203	AV-7204 (1)	AV-7224
Frequency Range, Min.	1 - 2.2 GHz	2 - 4 GHz	2 - 4 GHz	2 - 4 GHz
Power Output into 50 ohm load, Min. at 25°C	40mW/+16dBm	25mW/+14 dBm	40mW/+16dBm	100mW/+20 dBm
Power Output Variation vs. Frequency, Max.	3.0 dB	3.0 dB	3.0 dB	3.0 dB
Operating Case Temperature Range	0°C to +65°C	0°C to +65°C	0°C to +65°C	0°C to +65°C
Frequency Drift Over Operating Temperature. Max.	10 MHz	10 MHz	10 MHz	10 MHz
Pulling Figure (12dB Return Loss). Typ.	0.1 MHz	0.5 MHz	0.5 MHz	0.5 MHz
Pushing Figure, +15 VDC Supply, Typ.	0.5 MHz/V	0.5 MHz/V	0.5 MHz/V	0.1 MHz/V
-5 VDC Supply, Typ.	N/A	N/A	N/A	1.5 MHz/V
Magnetic Susceptibility @ 60 Hz Typ.	70KHz/Gauss	70KHz/Gauss	70KHz/Gauss	70KHz/Gauss
2nd Harmonic, @ 25°C, Min.	-15 dBc	-12 dBc	-20 dBc	-12 dBc
3rd Harmonic, @ 25°C, Min.	-20 dBc	-20 dBc	-20 dBc	-12 dBc
Spurious Output, Min.	-60 dBc	-60 dBc	-60 dBc	-60 dBc
Main Tuning Port Characteristics				
Sensitivity	$20 \pm 1 \text{ MHz/mA}$	$20 \pm 1 \text{ MHz/mA}$	20 ±1 MHz/mA	20 ±1 MHz/mA
3 dB Bandwidth. Typ.	5KHz	5KHz	5KHz	5KHz
Linearity, Typ	± 0.1%	± 0.05%	± 0.05%	± 0.05%
Hysteresis, Typ.	1.7 MHz	3 MHz	3 MHz	3 MHz
Input impedance @ 1KHz, Typ.	10 ohm in series with 95 mH			
FM Port Characteristics				
Sensitivity, Typ.	310 KHz/mA	310 KHz/mA	310 KHz/mA	310 KHz/mA
3 dB Bandwidth, Typ.	800 KHz	800 KHz	800 KHz	800 KHz
Deviation at 3 dB Bandwidth, Max	15 MHz	20 MHz	20 MHz	20 MHz
Input impedance @ 1KHz, Typ	1 ohm in series with 1.7 μH	1 ohm in series with 1.7 μH	1 ohm in series with 1.7 μH	1 ohm in series with 1.7 μΗ
DC Circuit Power, Max.	•	•	·	·
+15 ± 0.5V	150 mA	100 mA	90 mA	150 mA
$-5 \pm 0.1 \text{V}$	-	-	+Vc@ 35 mA (*)	60 mA
YIG Heater Power				
Input Voltage Range	20 to 28 VDC			
Power @ 25°C, Max.	1.5 watts	1.5 watts	1.5 watts	1.5 watts
Power @ 0°C, Max.	2.0 watts	2.0 watts	2.0 watts	2.0 watts
Weight, Max.	10 oz.	10 oz.	10 oz.	10 oz.
Case Style	A-45	A-45	B-45	C-45

(*) Terminal VC requires a linear voltage ramp proportional to frequency.

The voltage at 2 GHz is factory selected within the range +7 to +13 Volts and the voltage at 4 GHz is +15 Volts

(1) Model SF6_0991 seems similar to AV-7204

Model No.	AV-7403	AV-7453	AV-7443	AV-77011	AV-7871
Frequency Range, Min.	4 - 8 GHz	4 - 8 GHz	4 - 8 GHz	7 - 11 GHz	8 – 12.4 GHz
Power Output into 50 ohm load, Min. at 25°C	20mW/+13dBm	50mW/+17 dBm	100mW/+20dBm	60mW/+17.8 dBm	30mW/+14.8 dBm
Power Output Variation vs. Frequency, Max.	6.0 dB	6.0 dB	6.0 dB	6.0 dB	6.0 dB
Operating Case Temperature Range	0° to +65°C	0° to +65°C 20 MHz	0° to +65°C	0° to +65°C	0° to +65°C
Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ.	20 MHz 2 MHz	20 MHz	20 MHz 0.2 MHz	25 MHz 0.5 MHz	25 MHz 5 MHz
Pushing Figure (12db Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ.	2 MHz/V	0.5 MHz/V	0.2 MHz/V	0.5 MHz/V	0.1 MHz/V
-5 VDC Supply, Typ.	1.5 MHz/V	1.5 MHz/V	2.0 MHz/V	N/A	0.1 Wil 12/ V N/A
Magnetic Susceptibility @ 60 Hz Typ.	70KHz/Gauss	70KHz/Gauss	70KHz/Gauss	50KHz/Gauss	50KHz/Gauss
2nd Harmonic, @ 25°C, Min.	-12 dBc	-12 dBc	-12 dBc	-12 dBc	-12 dBc
3rd Harmonic, @ 25°C, Min.	-12 dBc	-12 dBc -20 dBc	-12 dBc -20 dBc	-15 dBc	-12 dBc -20 dBc
Spurious Output, Min.	-60 dBc	-60 dBc	-60 dBc	-60 dBc	-60 dBc
Main Tuning Port Characteristics	00 dB0	00 dB0	00 dB0	OO GBO	00 dB0
Sensitivity	20 ±1 MHz/mA	20 ±1 MHz/mA	20 ±1 MHz/mA	20 ±1 MHz/mA	20 ±1 MHz/mA
3 dB Bandwidth. Typ.	5KHz	5KHz	5KHz	5KHz	5KHz
Linearity, Typ	± 0.05%	± 0.05%	± 0.05%	± 0.01%	± 0.01%
Hysteresis, Typ.	6 MHz	6 MHz	6 MHz	6 MHz	6 MHz
Input impedance @ 1KHz, Typ.	10 ohm in series	10 ohm in series	10 ohm in series	9 ohm in series	9 ohm in series
7 7	with 95 mH	with 95 mH	with 95 mH	with 60 mH	with 60 mH
FM Port Characteristics	With CO IIII I	William CO IIII I	With 00 IIII I	With 00 line	
Sensitivity, Typ.	310 KHz/mA	310 KHz/mA	310 KHz/mA	450 KHz/mA	450 KHz/mA
3 dB Bandwidth, Typ.	800 KHz	800 KHz	800 KHz	400 KHz	400 KHz
Deviation at 3 dB Bandwidth, Max	40 MHz	40 MHz	40 MHz	70 MHz	40 MHz
Input impedance @ 1KHz, Typ	1 ohm in series	1 ohm in series	1 ohm in series	0.5 ohm in series	0.5 ohm in series
, , , , , , , , , , , , , , , , , , , ,	with 1.7 µH	with 1.7 µH	with 1.7 µH	with 2 µH	with 2 µH
DC Circuit Power, Max.				· •	
+15 ± 0.5V	40 mA	150 mA	200 mA	-	-
-5 ± 0.1V	40 mA	60 mA	60 mA	-	-
+15 +0.5 / -3.5V	-	-	-	300mA	125 mA
YIG Heater Power					
Input Voltage Range	20 to 28 VDC	20 to 28 VDC	20 to 28 VDC	20 to 28 VDC	20 to 28 VDC
Power @ 25°C, Max.	1.5 watts	1.5 watts	1.5 watts	1.5 watts	1.5 watts
Power @ 0°C, Max.	2.0 watts	2.0 watts	2.0 watts	2.0 watts	2.0 watts
Weight, Max.	10 oz.	10 oz.	10 oz.	12 oz.	12 oz.
Case Style	C-38	C-38	C-45	M4-45	M4-45
Model No	۸۱/_7972	۸\/_7072	AV-712/1	A\/_71251	AV-71261
Model No.	AV-7872	AV-7873	AV-71241	AV-71251	AV-71261
Frequency Range, Min.	8 – 12.4 GHz	8 – 12.4 GHz	12 - 18 GHz	12 - 18 GHz	12 - 18 GHz
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C	8 – 12.4 GHz 60mW/+17.8 dBm	8 – 12.4 GHz 100mW/+20 dBm	12 - 18 GHz 20mW/+13dBm	12 - 18 GHz 40mW/+16 dBm	12 - 18 GHz 80mW/+19 dBm
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB	12 - 18 GHz 20mW/+13dBm 6.0 dB	12 - 18 GHz 40mW/+16 dBm 6.0 dB	12 - 18 GHz 80mW/+19 dBm 6.0 dB
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc	8 - 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min. Main Tuning Port Characteristics	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min. Main Tuning Port Characteristics Sensitivity 3 dB Bandwidth. Typ.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc - -60 dBc	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc - -60 dBc 18 ±1 MHz/mA 5KHz
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min. Main Tuning Port Characteristics Sensitivity	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc - -60 dBc	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1%
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min. Main Tuning Port Characteristics Sensitivity 3 dB Bandwidth. Typ. Linearity, Typ	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc - -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min. Main Tuning Port Characteristics Sensitivity 3 dB Bandwidth. Typ. Linearity, Typ Hysteresis, Typ.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc - -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min. Main Tuning Port Characteristics Sensitivity 3 dB Bandwidth. Typ. Linearity, Typ Hysteresis, Typ.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc - -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min. Main Tuning Port Characteristics Sensitivity 3 dB Bandwidth. Typ. Linearity, Typ Hysteresis, Typ. Input impedance @ 1KHz, Typ.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc - -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min. Main Tuning Port Characteristics Sensitivity 3 dB Bandwidth. Typ. Linearity, Typ Hysteresis, Typ. Input impedance @ 1KHz, Typ.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc - -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min. Main Tuning Port Characteristics Sensitivity 3 dB Bandwidth. Typ. Linearity, Typ Hysteresis, Typ. Input impedance @ 1KHz, Typ.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min. Main Tuning Port Characteristics Sensitivity 3 dB Bandwidth. Typ. Linearity, Typ Hysteresis, Typ. Input impedance @ 1KHz, Typ. FM Port Characteristics Sensitivity, Typ. 3 dB Bandwidth, Typ.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA 400 KHz	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA 400 KHz	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc - -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min. Main Tuning Port Characteristics Sensitivity 3 dB Bandwidth. Typ. Linearity, Typ Hysteresis, Typ. Input impedance @ 1KHz, Typ. FM Port Characteristics Sensitivity, Typ. 3 dB Bandwidth, Typ. Deviation at 3 dB Bandwidth, Max	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA 400 KHz 40 MHz	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA 400 KHz 40 MHz	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min. Main Tuning Port Characteristics Sensitivity 3 dB Bandwidth. Typ. Linearity, Typ Hysteresis, Typ. Input impedance @ 1KHz, Typ. FM Port Characteristics Sensitivity, Typ. 3 dB Bandwidth, Typ. Deviation at 3 dB Bandwidth, Max Input impedance @ 1KHz, Typ	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA 400 KHz 40 MHz 0.5 ohm in series	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA 400 KHz 40 MHz 0.5 ohm in series	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min. Main Tuning Port Characteristics Sensitivity 3 dB Bandwidth. Typ. Linearity, Typ Hysteresis, Typ. Input impedance @ 1KHz, Typ. FM Port Characteristics Sensitivity, Typ. 3 dB Bandwidth, Typ. Deviation at 3 dB Bandwidth, Max	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA 400 KHz 40 MHz 0.5 ohm in series with 2 μH	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA 400 KHz 40 MHz 0.5 ohm in series with 2 μH	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series with 2.3 µH	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series with 2.3 µH	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series with 2.3 µH
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min. Main Tuning Port Characteristics Sensitivity 3 dB Bandwidth. Typ. Linearity, Typ Hysteresis, Typ. Input impedance @ 1KHz, Typ. FM Port Characteristics Sensitivity, Typ. 3 dB Bandwidth, Typ. Deviation at 3 dB Bandwidth, Max Input impedance @ 1KHz, Typ DC Circuit Power, Max. +15 +0.5/-3.5V	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA 400 KHz 40 MHz 0.5 ohm in series with 2 μH	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA 400 KHz 40 MHz 0.5 ohm in series with 2 μH	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series with 2.3 µH	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series with 2.3 µH	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series with 2.3 µH
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min. Main Tuning Port Characteristics Sensitivity 3 dB Bandwidth. Typ. Linearity, Typ Hysteresis, Typ. Input impedance @ 1KHz, Typ. FM Port Characteristics Sensitivity, Typ. 3 dB Bandwidth, Typ. Deviation at 3 dB Bandwidth, Max Input impedance @ 1KHz, Typ DC Circuit Power, Max. +15 +0.5/-3.5V YIG Heater Power	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA 400 KHz 40 MHz 0.5 ohm in series with 2 µH 250 mA	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA 400 KHz 40 MHz 0.5 ohm in series with 2 µH 250 mA	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series with 2.3 µH 125 mA	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series with 2.3 µH 150 mA	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series with 2.3 µH 200 mA
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min. Main Tuning Port Characteristics Sensitivity 3 dB Bandwidth. Typ. Linearity, Typ Hysteresis, Typ. Input impedance @ 1KHz, Typ. FM Port Characteristics Sensitivity, Typ. 3 dB Bandwidth, Typ. Deviation at 3 dB Bandwidth, Max Input impedance @ 1KHz, Typ DC Circuit Power, Max. +15 +0.5/-3.5V YIG Heater Power Input Voltage Range	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA 400 KHz 40 MHz 0.5 ohm in series with 2 µH 250 mA	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA 400 KHz 40 MHz 0.5 ohm in series with 2 μH 250 mA 20 to 28 VDC	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series with 2.3 µH 125 mA	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series with 2.3 µH 150 mA 20 to 28 VDC	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series with 2.3 µH 200 mA
Frequency Range, Min. Power Output into 50 ohm load, Min. at 25°C Power Output Variation vs. Frequency, Max. Operating Case Temperature Range Freq. Drift Over Operating Temperature. Max. Pulling Figure (12dB Return Loss). Typ. Pushing Figure, +15 VDC Supply. Typ5 VDC Supply, Typ. Magnetic Susceptibility @ 60 Hz Typ. 2nd Harmonic, @ 25°C, Min. 3rd Harmonic, @ 25°C, Min. Spurious Output, Min. Main Tuning Port Characteristics Sensitivity 3 dB Bandwidth. Typ. Linearity, Typ Hysteresis, Typ. Input impedance @ 1KHz, Typ. FM Port Characteristics Sensitivity, Typ. 3 dB Bandwidth, Typ. Deviation at 3 dB Bandwidth, Max Input impedance @ 1KHz, Typ DC Circuit Power, Max. +15 +0.5/-3.5V YIG Heater Power Input Voltage Range Power @ 25°C, Max.	8 – 12.4 GHz 60mW/+17.8 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA 400 KHz 40 MHz 0.5 ohm in series with 2 μH 250 mA 20 to 28 VDC 1.5 watts	8 – 12.4 GHz 100mW/+20 dBm 6.0 dB 0° to +65°C 25 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -20 dBc -60 dBc 20 ±1 MHz/mA 5KHz ± 0.1% 6 MHz 9 ohm in series with 60 mH 450 KHz/mA 400 KHz 40 MHz 0.5 ohm in series with 2 μH 250 mA 20 to 28 VDC 1.5 watts	12 - 18 GHz 20mW/+13dBm 6.0 dB 0° to +65°C 40 MHz 5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series with 2.3 µH 125 mA 20 to 28 VDC 1.5 watts	12 - 18 GHz 40mW/+16 dBm 6.0 dB 0° to +65°C 40 MHz 1 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series with 2.3 µH 150 mA 20 to 28 VDC 1.5 watts	12 - 18 GHz 80mW/+19 dBm 6.0 dB 0° to +65°C 40 MHz 0.5 MHz 0.1 MHz/V N/A 50KHz/Gauss -12 dBc -60 dBc 18 ±1 MHz/mA 5KHz ± 0.1% 9 MHz 6 ohm in series with 73 mH 450 KHz/mA 1 MHz 70 MHz 0.5 ohm in series with 2.3 µH 200 mA 20 to 28 VDC 1.5 watts