# STM376-2

## RF POWER MODULE WIRELESS LOCAL LOOP APPLICATIONS

PRELIMINARY DATA

- LINEAR POWER AMPLIFIER
- 350-376 MHz
- 20 VOLTS
- INPUT/OUTPUT 50 OHMS
- POUT = 1.0 WAVG (2.0 W PEP)
- GAIN = 21 dB

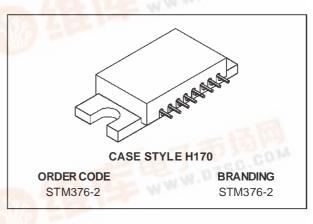
#### DESCRIPTION

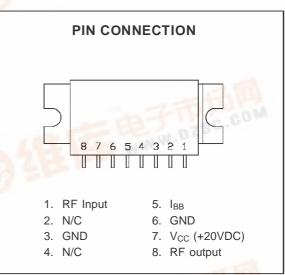
The STM376-2 module is designed to be used as a linear RF Power Amplifier for WLL or other fixed radio access subscriber applications. This particular model is one of several in design covering the 300-500 MHz frequency range in individual bandwidths of 25 MHz each.

Band splits and corresponding part numbers for all bands are as follows:

STM326-2	300-326 MHz	
STM351-2	325-351 MHz	PROTOTYPES
STM376-2	350-376 MHz	AVAILABLE
STM401-2	375-401 MHz	
STM426-2	400-426 MHz	
STM451-2	425-451 MHz	
STM476-2	450-476 MHz	
STM500-2	475-500 MHz	

#### ABSOLUTE MAXIMUM RATINGS (Tcase =25°C)





Symbol	Parameter	Value	Unit	
Vcc	DC Supply Voltage	+21	Vdc	
I <sub>CC(q)</sub>	Quiescent Current (pin 7)	200	mAdc	
Icc	Operating Current (pin 7)	500	mAdc	
PIN	RF Input Power	30	mW	
Роит	RF Output Power	2.0	Wavg	
TSTG	Storage Temperature	-30 to +100	°C	
Tc	Operating Case Temperature	- 20 to +60	°C	



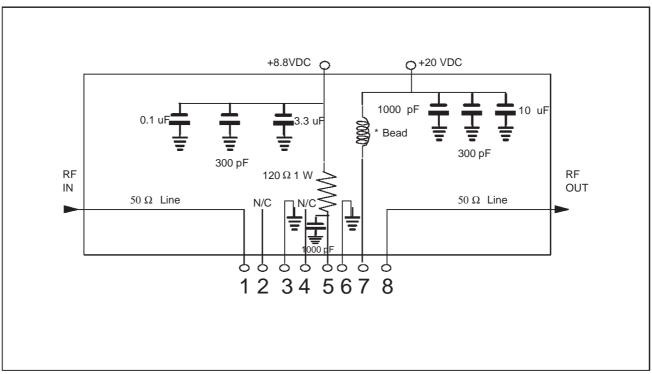
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## ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = $30^{\circ}$ C, V<sub>CC</sub> = 20.0Vdc, V<sub>BB</sub> = 8.8 Vdc)

Symbol	Parameter	Test Conditions		Value			Unit
	Farameter			Min.	Тур.	Max.	Unit
BW	Frequency Range			350	—	376	MHz
GP	Power Gain	P <sub>OUT</sub> = 1.0 W*		21	23	25	dB
η	Efficiency	Pout = 1.0 W*		11	12.5	_	%
—	Input VSWR	Pout = 1.0 W*	$Z_S,\ Z_L=50\Omega$	_	_	1.5:1	VSWR
I <sub>CC(q)</sub>	Quiescent Current	$P_{IN} = 0 W$		110	120	130	mA
Icc	Collector Supply Current	P <sub>OUT</sub> = 1.0 W*		_	375	425	mA
I <sub>BB</sub>	Bias Current	P <sub>OUT</sub> = 1.0 W*		—	65		mA
Н	Harmonics	Pout = 1.0 W*	F = 350 MHz	—	-34	-30	dBc
IMD	Intermodulation Distortion	P <sub>OUT</sub> = 1.0 W*			-46	-40	dBc
_	Load Mismatch	Load VSWR = $\infty$ :1 Pout = 1.0 W*	(All phase angles)	No Degradation in Output Power after Load Restoration			
_	Stability	Load VSWR = 5:1 P <sub>OUT</sub> = 1.0 W*	(All phase angles)	All Spurious outputs more than 50dB below carrier			

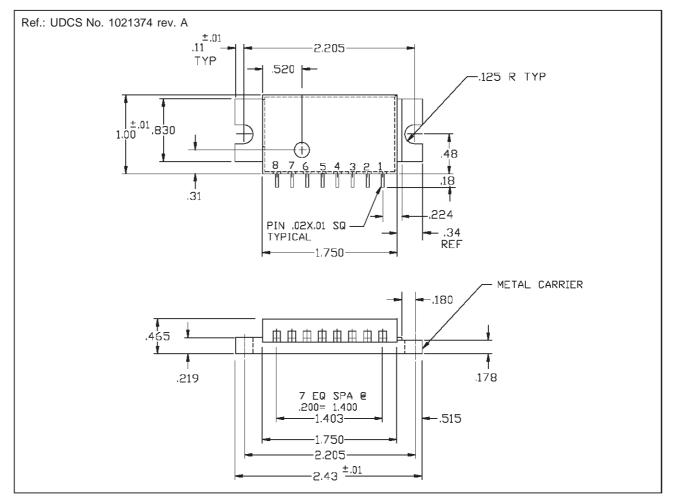
\* 2 Tone Test, 50 KHz spacing:  $P_{OUT}$  = 1.0  $W_{AVG}$  (2.0  $W_{PEP})$ 

## MODULE DC AND TEST FIXTURE CONFIGURATION



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#### PACKAGE MECHANICAL DATA



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