

ADPA7005 Specification Changes

► New Specifications

► OLD SPECIFICATIONS

SPECIFICATIONS

20 GHz TO 34 GHz FREQUENCY RANGE

$T_A = 25^\circ\text{C}$, $V_{DD} = 5\text{ V}$, and quiescent supply current (I_{DQ}) = 1200 mA for nominal operation, unless otherwise noted.

Table 1.

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions/Comments
FREQUENCY RANGE		20		34	GHz	
GAIN		15	17		dB	
Gain Flatness			±0.5		dB	
Gain Variation Over Temperature			0.012		dB/°C	
NOISE FIGURE			7		dB	
RETURN LOSS						
Input			18		dB	
Output			20		dB	
OUTPUT						
Output Power for 1 dB Compression	P1dB	28	31		dBm	Measurement taken at output power (P_{OUT}) per tone = 14 dBm
Saturated Output Power	P_{SAT}		32		dBm	
Output Third-Order Intercept	IP3		41		dBm	
SUPPLY						
Current	I_{DQ}		1200		mA	Adjust the gate bias voltage (V_{GG1}) between -1.5 V up to 0 V to achieve the desired I_{DQ}
Voltage	V_{DD}	4	5		V	

20 GHz TO 22 GHz FREQUENCY RANGE

$T_A = 25^\circ\text{C}$, $V_{DD} = 5\text{ V}$, and quiescent supply current (I_{DQ}) = 1200 mA for nominal operation, unless otherwise noted.

Table 1.

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions/Comments
FREQUENCY RANGE		20		22	GHz	
GAIN			16.5		dB	
Gain Flatness			±0.7		dB	
Gain Variation Over Temperature			0.012		dB/°C	
NOISE FIGURE			9		dB	
RETURN LOSS						
Input			21		dB	
Output			24		dB	
OUTPUT						
Output Power for 1 dB Compression	P1dB		28.5		dBm	Measurement taken at output power (P_{OUT}) per tone = 14 dBm
Saturated Output Power	P_{SAT}		30		dBm	
Output Third-Order Intercept	IP3		38.5		dBm	
SUPPLY						
Current	I_{DQ}		1200		mA	Adjust the gate bias voltage (V_{GG1}) between -1.5 V up to 0 V to achieve the desired I_{DQ}
Voltage	V_{DD}	4	5		V	

22 GHz TO 34 GHz FREQUENCY RANGE

$T_A = 25^\circ\text{C}$, $V_{DD} = 5\text{ V}$, and quiescent supply current (I_{DQ}) = 1200 mA for nominal operation, unless otherwise noted.

Table 2.

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions/Comments
FREQUENCY RANGE		22		34	GHz	
GAIN		15	17		dB	
Gain Flatness			±0.6		dB	
Gain Variation Over Temperature			0.023		dB/°C	
NOISE FIGURE			7		dB	
RETURN LOSS						
Input			18		dB	
Output			20		dB	
OUTPUT						
Output Power for 1 dB Compression	P1dB	28	30.5		dBm	Measurement taken at output power (P_{OUT}) per tone = 14 dBm
Saturated Output Power	P_{SAT}		32		dBm	
Output Third-Order Intercept	IP3		41		dBm	
SUPPLY						
Current	I_{DQ}		1200		mA	Adjust the gate bias voltage (V_{GG1}) between -1.5 V up to 0 V to achieve the desired I_{DQ}
Voltage	V_{DD}	4	5		V	