

1) a) T

b) F

c) F

2) a) See next

b) 1.27 MHz

c) SNR 54.94 dB

SNDR 52.86 dB

ENOB 9.47 Bits

THD 0.196%

SFDR 54.57 dB

d) 3rd harmonic power

e)

3) a) See next for plot

V _{in}	Device	Resistance
0	MN	47.26
0	MN11MP	47.26
VDD	MN11MP	166.68
VDD	MP	166.68
VDD	MN11MP	166.68

max (MN11MP) 492.74

$$b) K = \frac{166.68}{47.26} = 3.52$$

c) Max R_p 47.26 with W_p 3.52

$$N = \ln(0.1/100) = 5.1$$