BPSK → need more BW   BPSK > MSK > QPSK
QPSK → ½ BPSK

2017

GMSK → used mobile radio system (GSM)

09

∴ In MSK we achive the reduction of energy of side lobe (-20dB), by sacrificing Band width (wich which is larger than QPSK). So here we come Gaussian MSK, is a derivative of MSK where the bandwidth required is further reduced by Passing the modulating NRZ waveform through a Gaussian filter. and also reduced sidelobe levels.

GMSK Tx

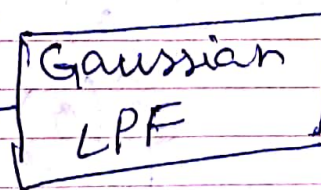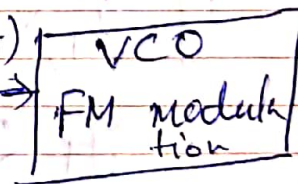NRZ —
Data —
→ | Gaussian LPF | → $b(t)$ → | VCO / FM modulation | → $x(t)$

$m = 0.5$

↓
smoth the edge of NRZ.

GMSK o/p at RF

February 2017

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

Notes: