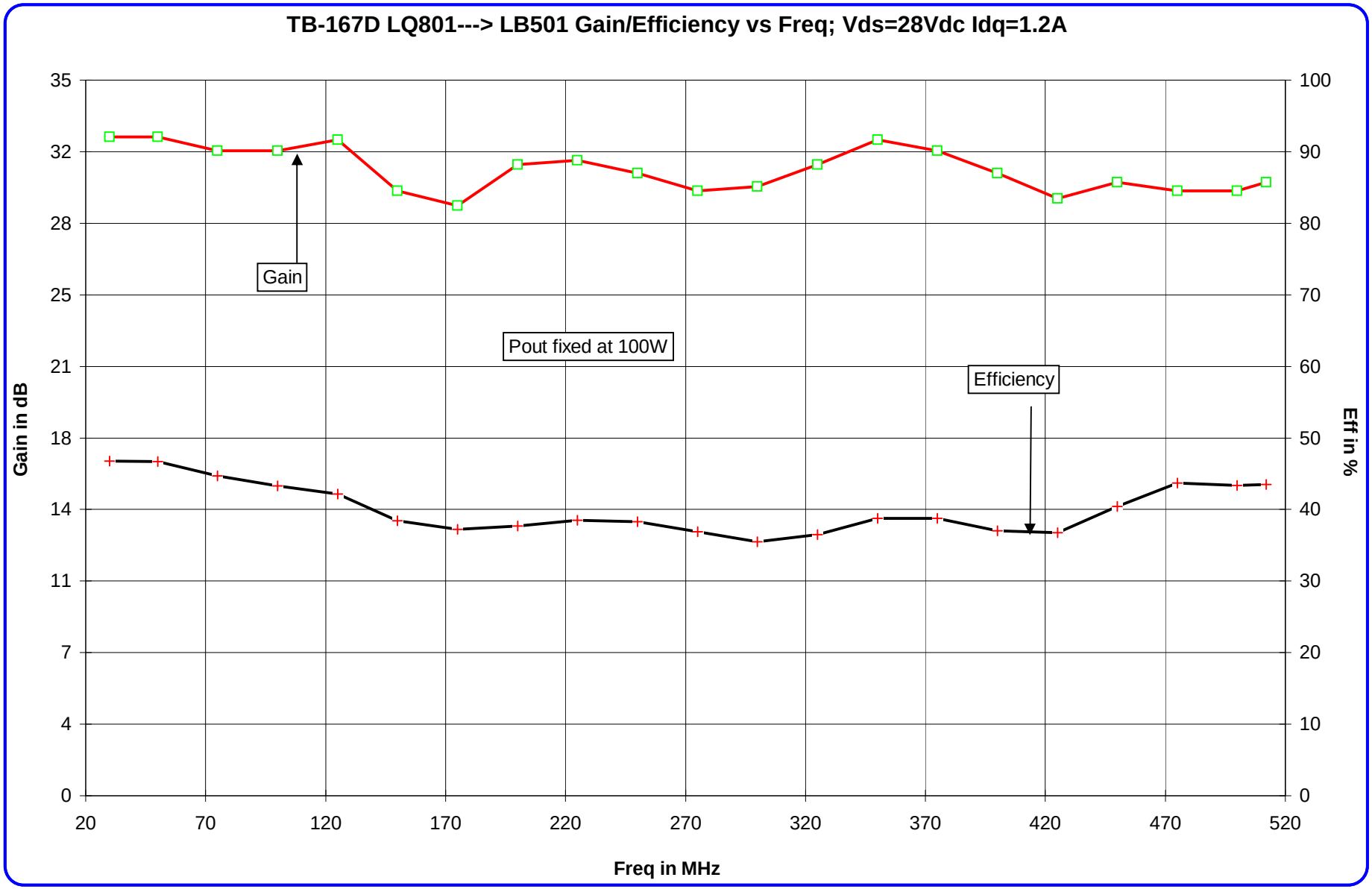
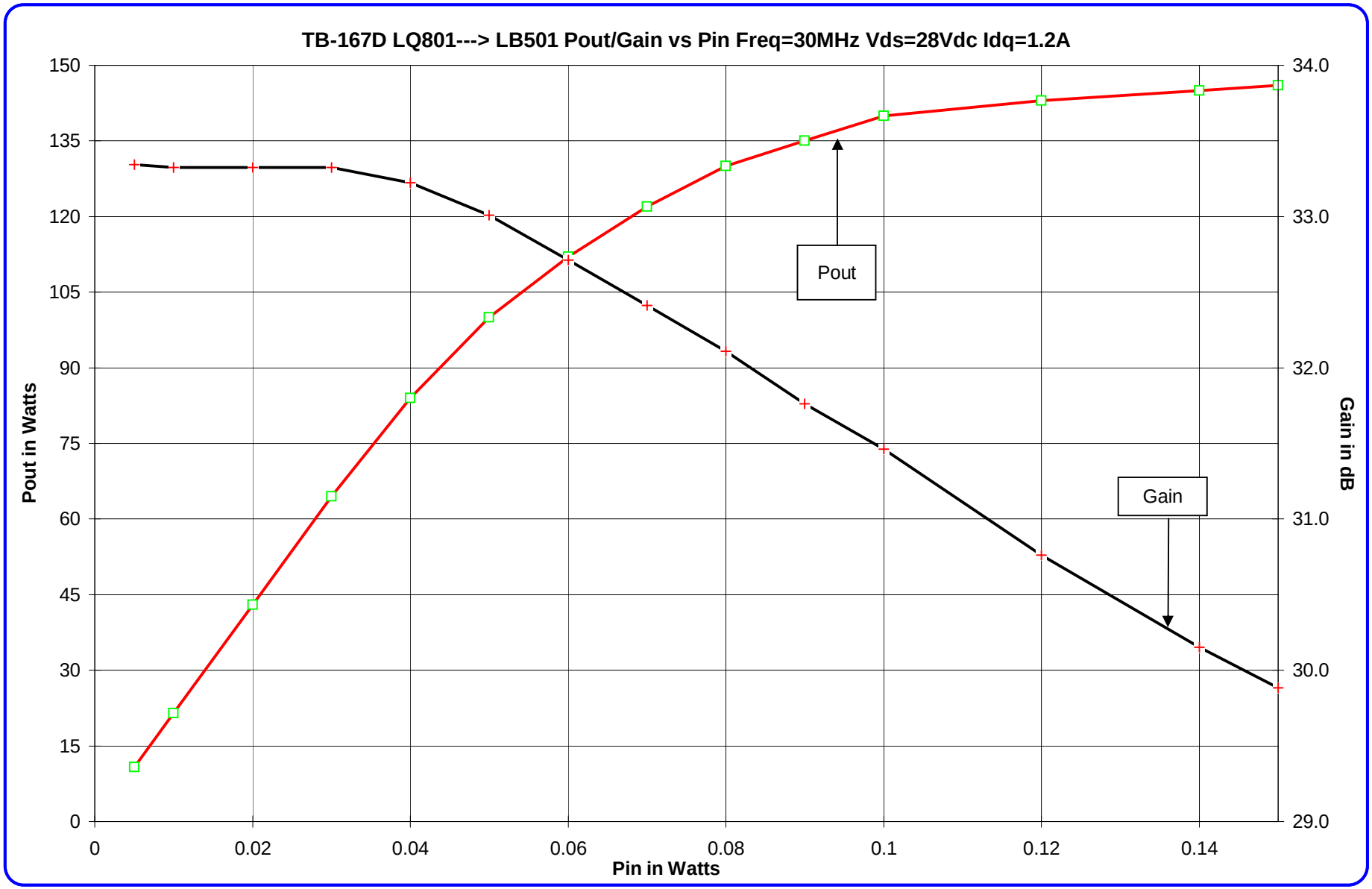
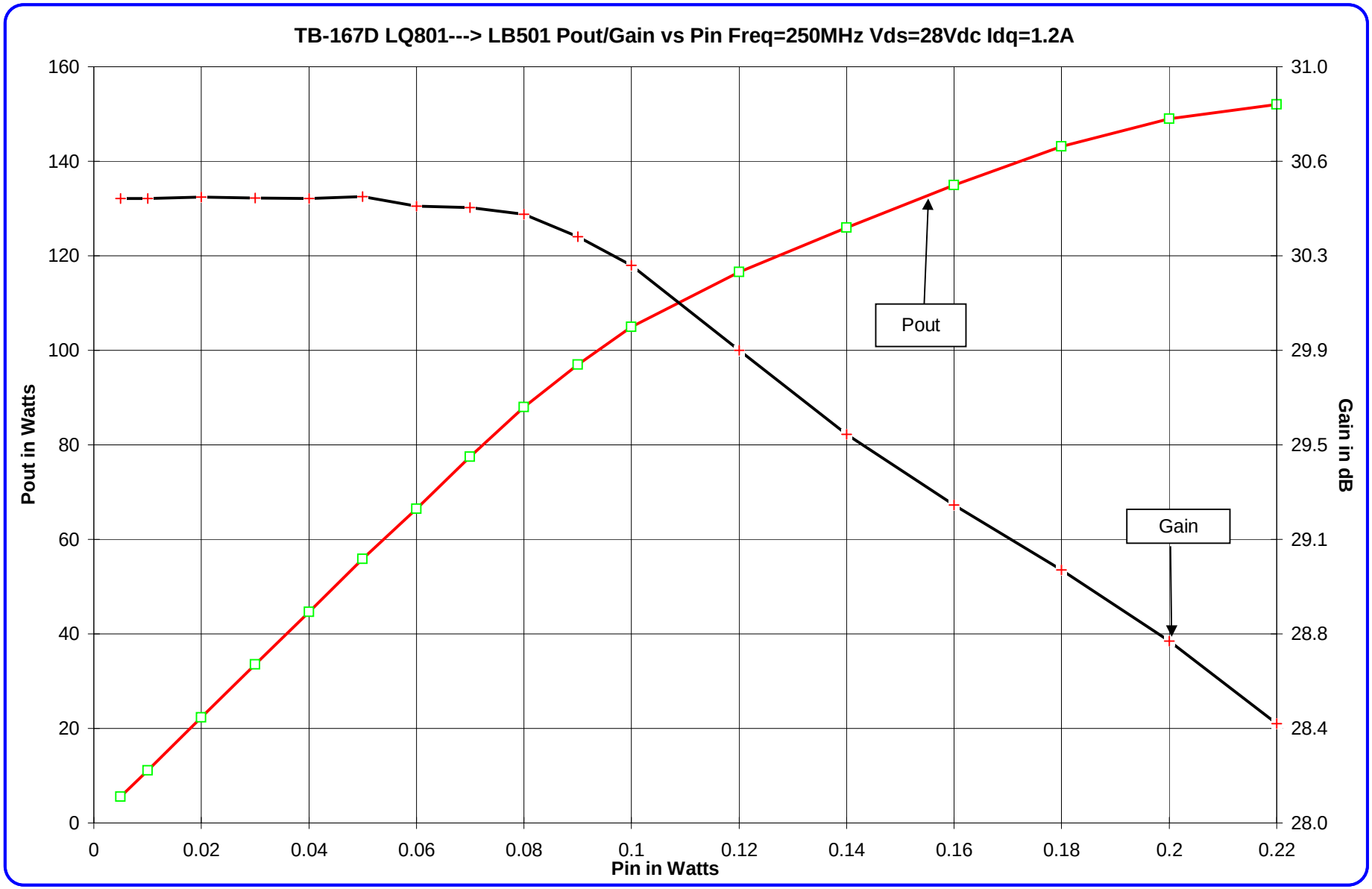
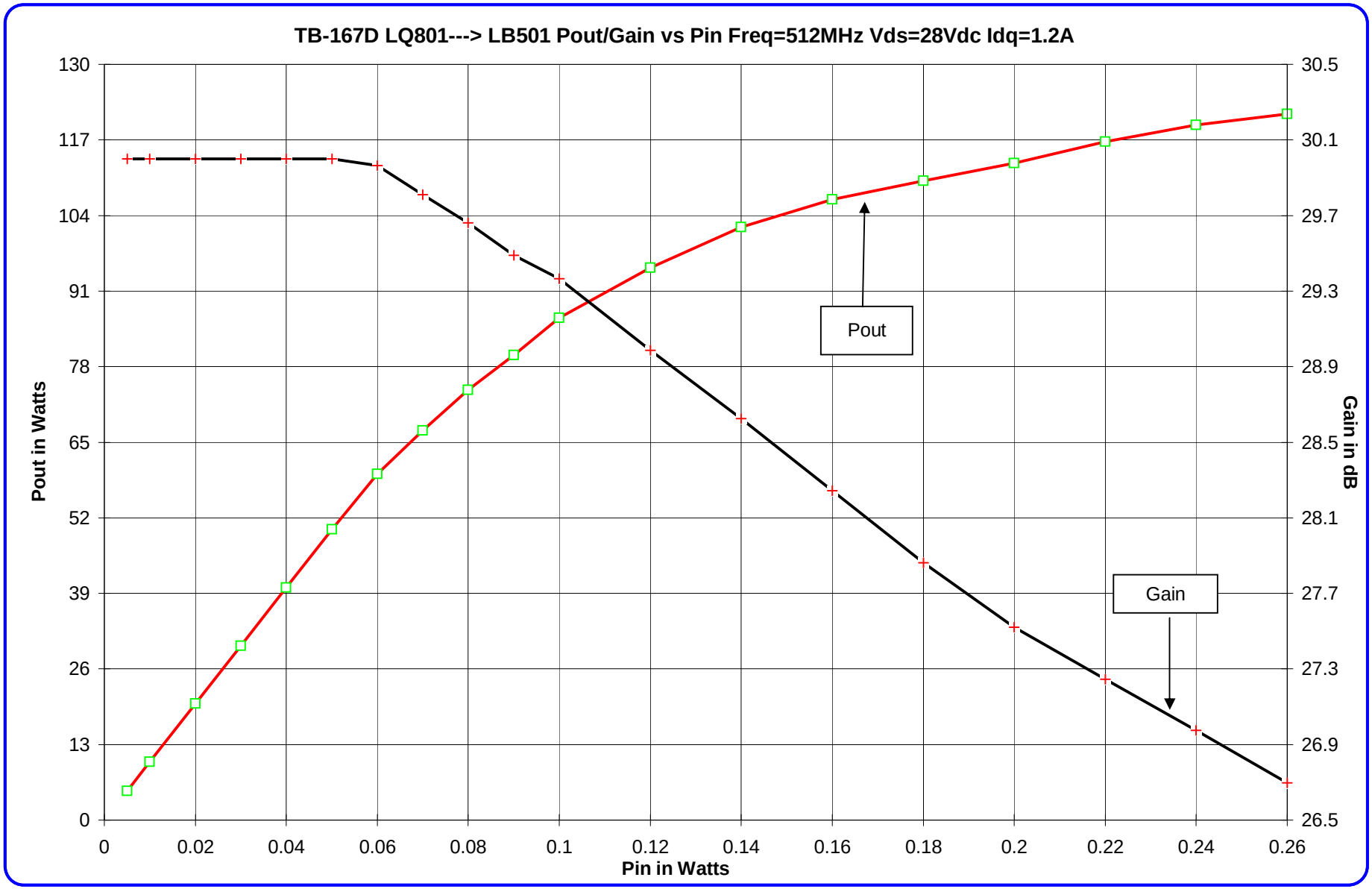
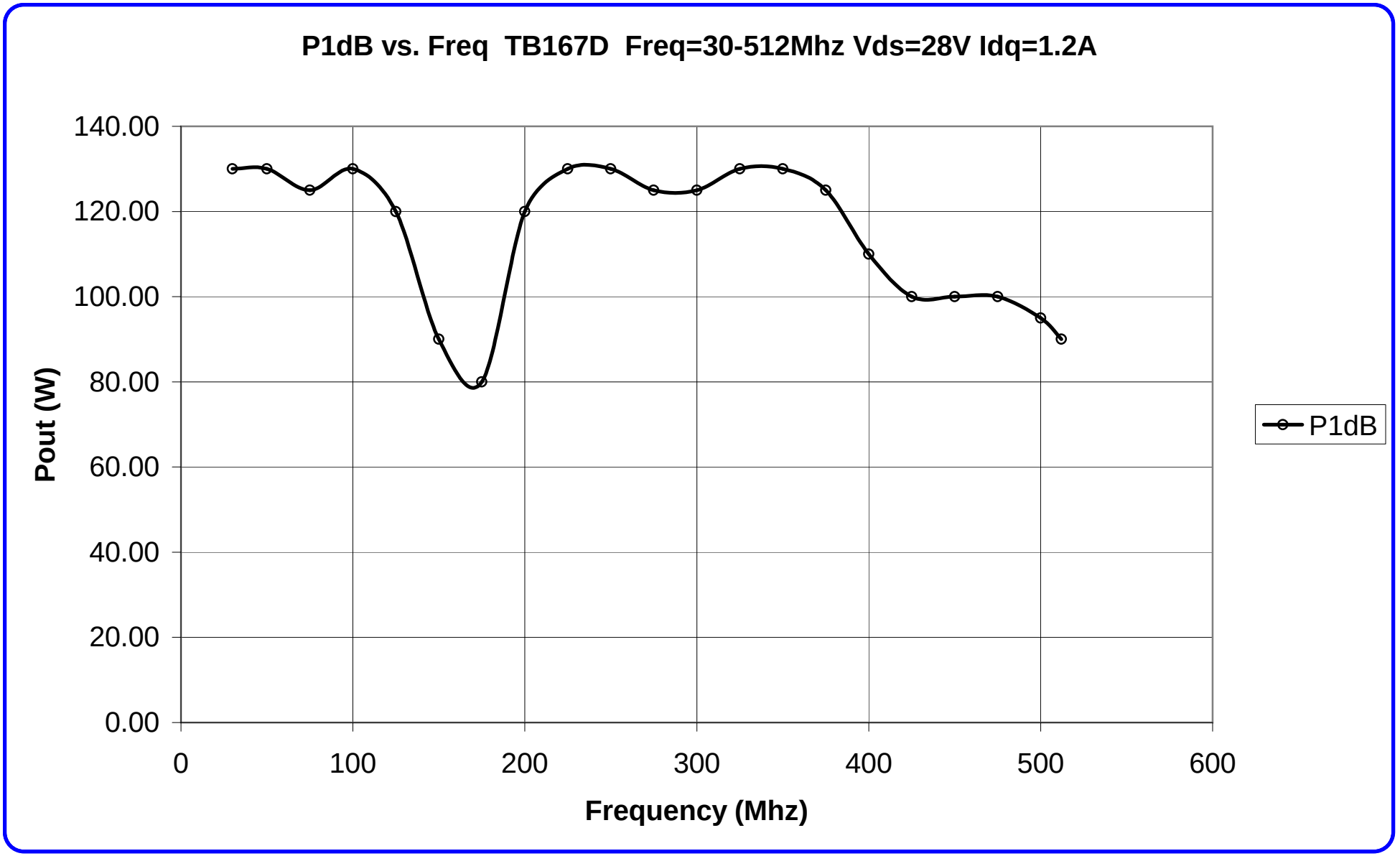
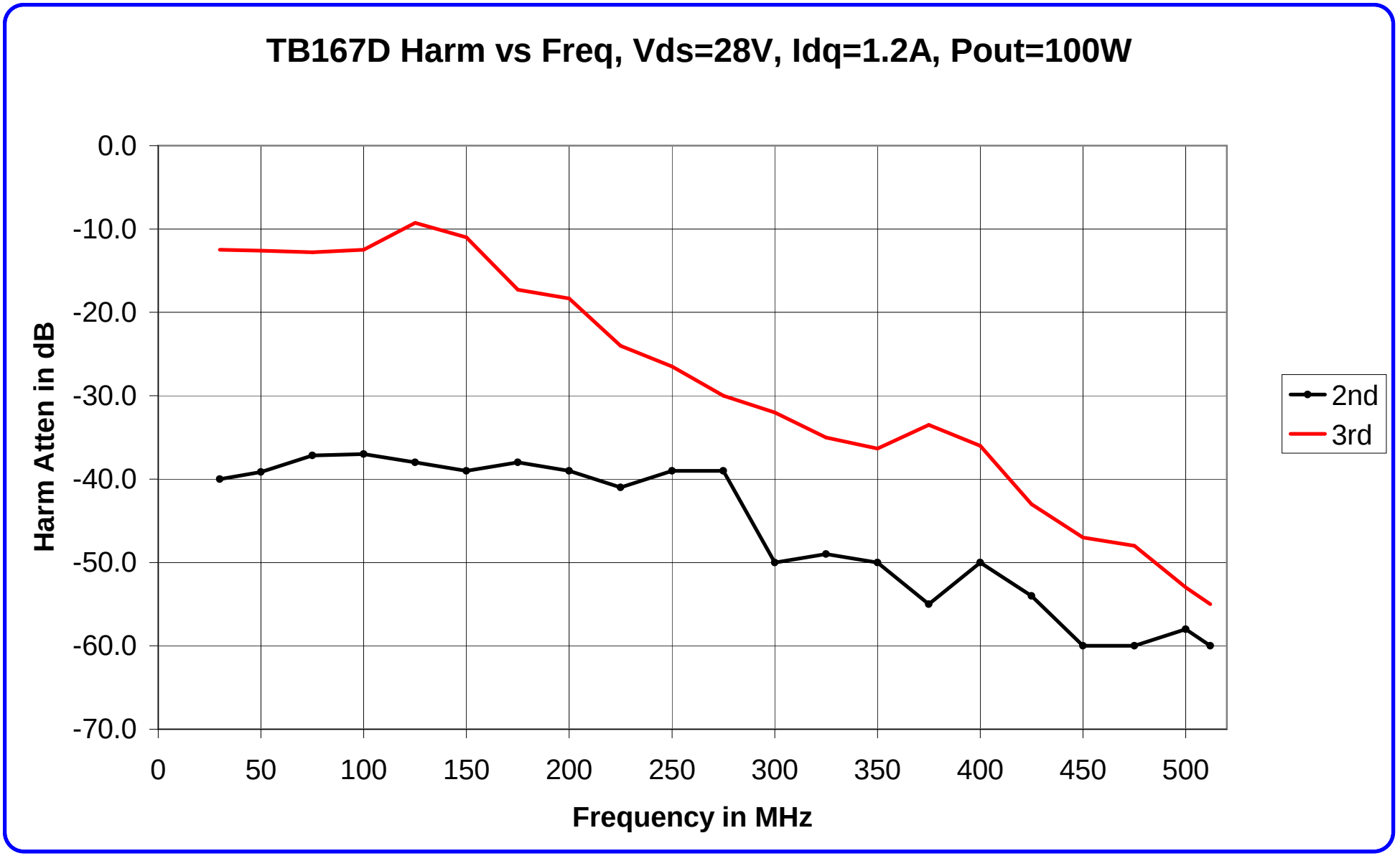

TB-167D LQ801---> LB501 Gain/Efficiency vs Freq; Vds=28Vdc Idq=1.2A
Gain in dB
Eff in %
Freq in MHz
Gain
Pout fixed at 100W
Efficiency
35
32
28
25
21
18
14
11
7
4
0
100
90
80
70
60
50
40
30
20
10
0
20
70
120
170
220
270
320
370
420
470
520

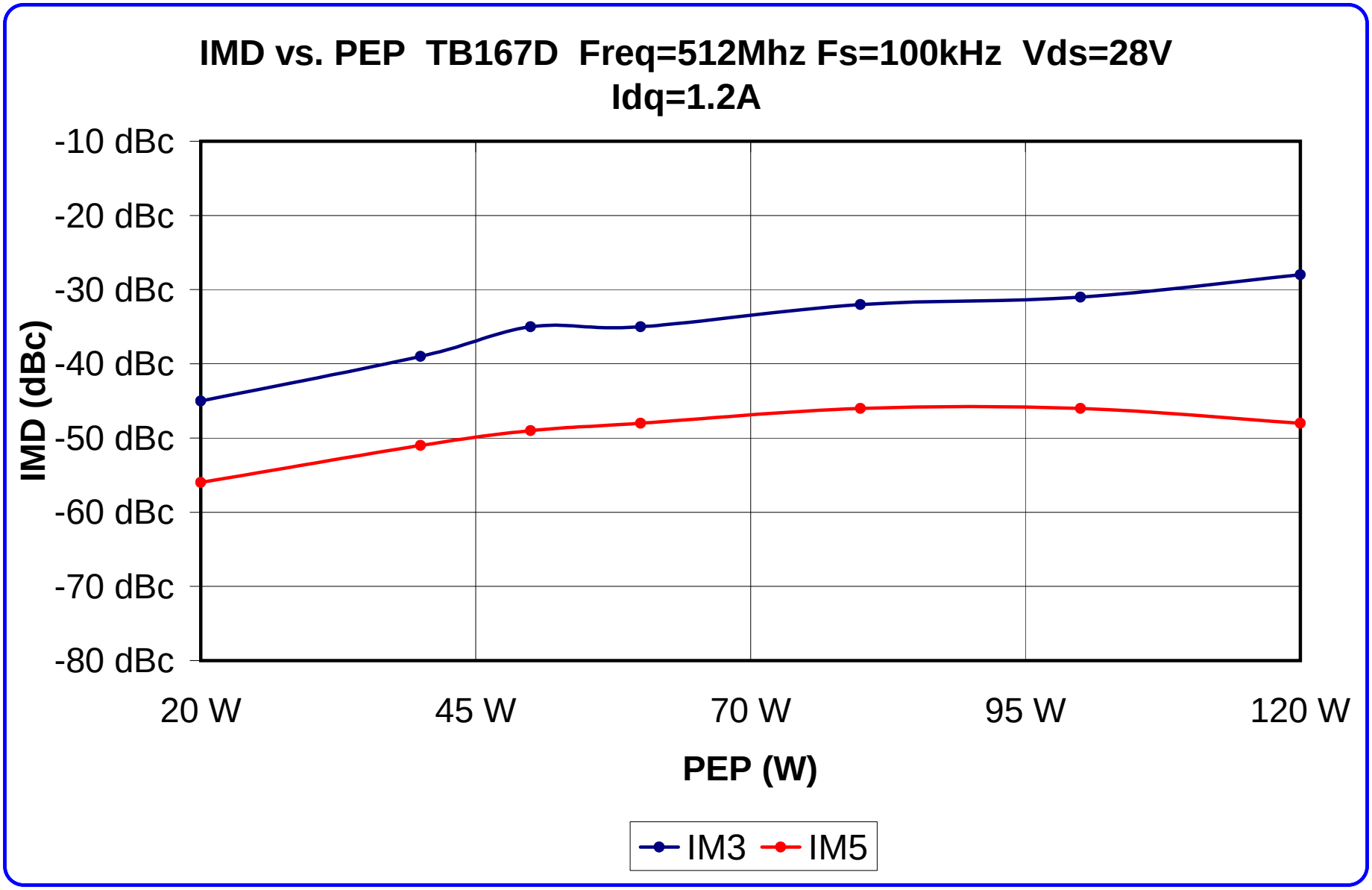

TB-167D LQ801---> LB501 Pout/Gain vs Pin Freq=30MHz Vds=28Vdc Idq=1.2A
Pout in Watts
Gain in dB
Pin in Watts
150
135
120
105
90
75
60
45
30
15
0
34.0
33.0
32.0
31.0
30.0
29.0
0
0.02
0.04
0.06
0.08
0.1
0.12
0.14
Pout
Gain

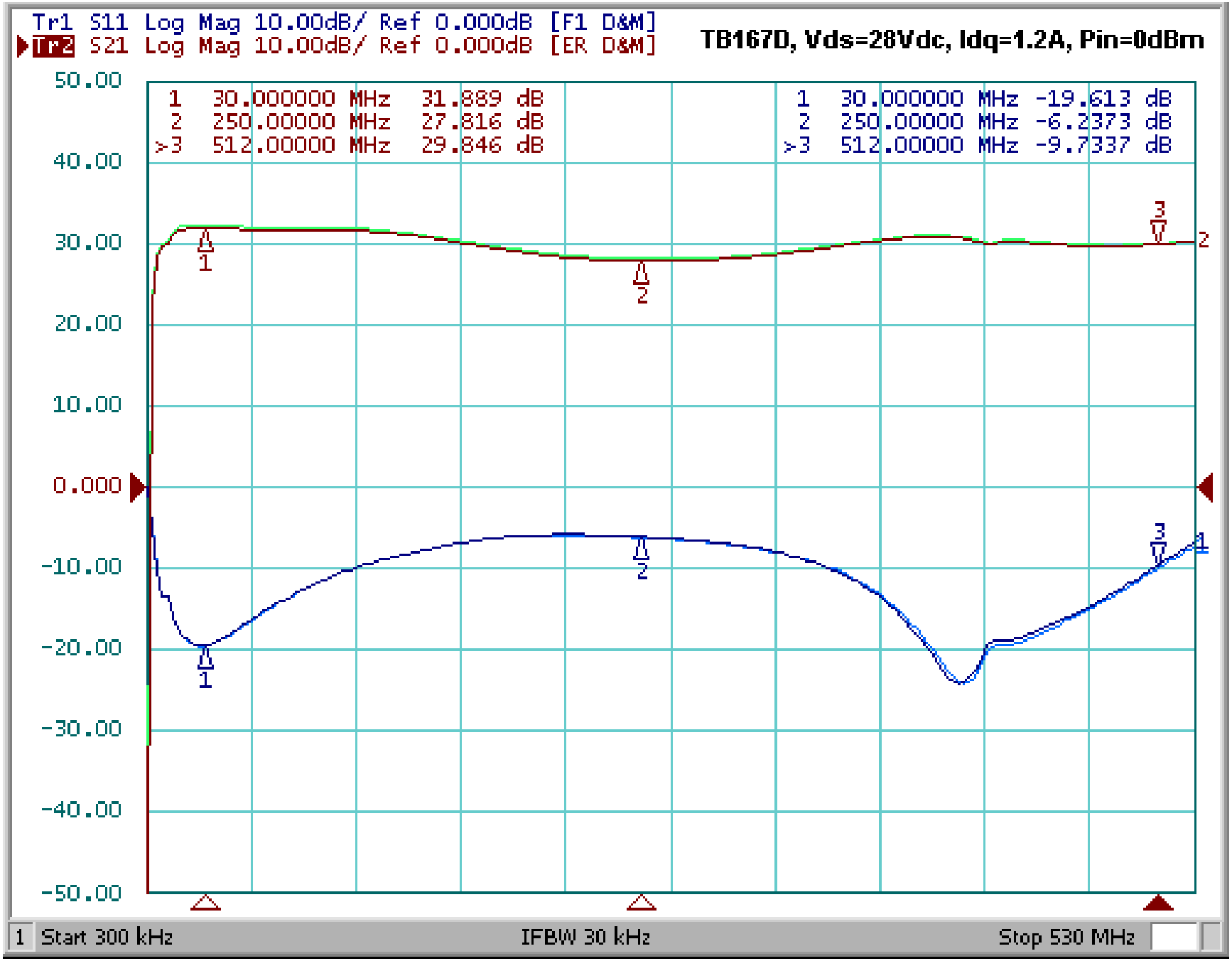

TB-167D LQ801---> LB501 Pout/Gain vs Pin Freq=250MHz Vds=28Vdc Idq=1.2A
Pout in Watts
Gain in dB
Pin in Watts
Pout
Gain
160
140
120
100
80
60
40
20
0
31.0
30.6
30.3
29.9
29.5
29.1
28.8
28.4
28.0
0
0.02
0.04
0.06
0.08
0.1
0.12
0.14
0.16
0.18
0.2
0.22

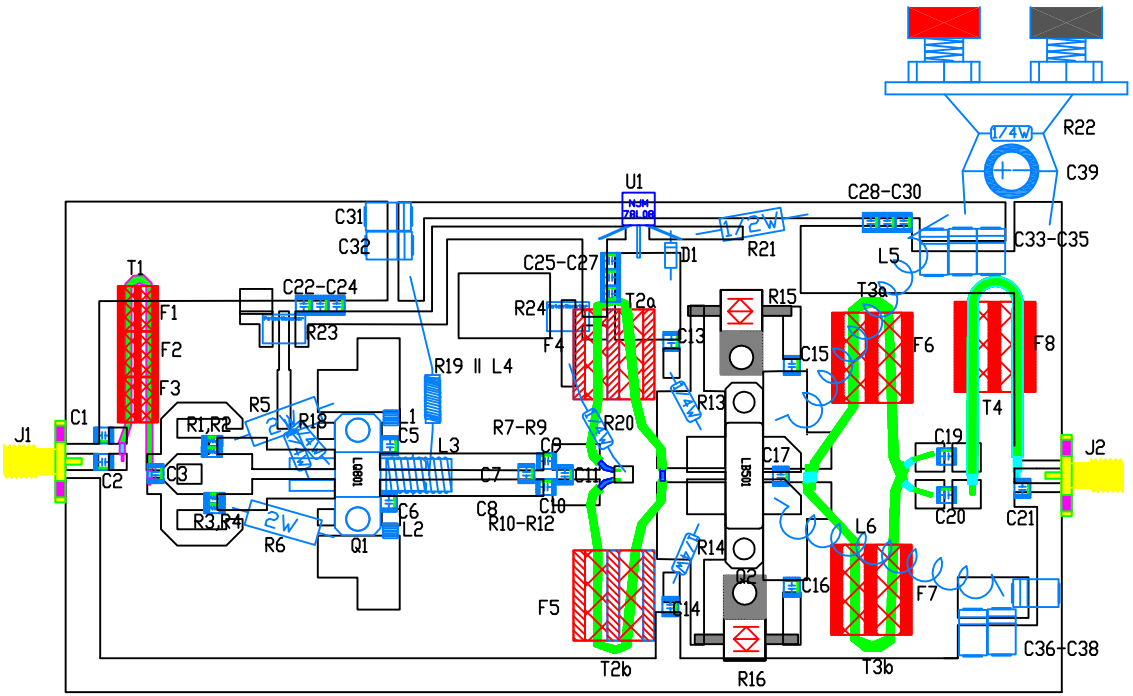

TB-167D LQ801---> LB501 Pout/Gain vs Pin Freq=512MHz Vds=28Vdc Idq=1.2A
Pout in Watts
Gain in dB
Pin in Watts
130
117
104
91
78
65
52
39
26
13
0
30.5
30.1
29.7
29.3
28.9
28.5
28.1
27.7
27.3
26.9
26.5
0
0.02
0.04
0.06
0.08
0.1
0.12
0.14
0.16
0.18
0.2
0.22
0.24
0.26
Pout
Gain


P1dB vs. Freq TB167D Freq=30-512Mhz Vds=28V Idq=1.2A
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
Pout (W)
0
100
200
300
400
500
600
Frequency (Mhz)
P1dB


TB167D Harm vs Freq, Vds=28V, Idq=1.2A, Pout=100W
Harm Atten in dB
0.0
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
0
50
100
150
200
250
300
350
400
450
500
Frequency in MHz
2nd
3rd


IMD vs. PEP TB167D Freq=512Mhz Fs=100kHz Vds=28V
Idq=1.2A
-10 dBc
-20 dBc
-30 dBc
-40 dBc
-50 dBc
-60 dBc
-70 dBc
-80 dBc
IMD (dBc)
20 W
45 W
70 W
95 W
120 W
PEP (W)
IM3
IM5


Tr1 S11 Log Mag 10.00dB/ Ref 0.000dB [F1 D&M]
Tr2 S21 Log Mag 10.00dB/ Ref 0.000dB [ER D&M]
TB167D, Vds=28Vdc, Idq=1.2A, Pin=0dBm
1 30.000000 MHz 31.889 dB
2 250.00000 MHz 27.816 dB
>3 512.00000 MHz 29.846 dB
1 30.000000 MHz -19.613 dB
2 250.00000 MHz -6.2373 dB
>3 512.00000 MHz -9.7337 dB
50.00
40.00
30.00
20.00
10.00
0.000
-10.00
-20.00
-30.00
-40.00
-50.00
1 Start 300 kHz
IFBW 30 kHz
Stop 530 MHz



PCB Material : Double side FR4 ER=3.5, H=0.064in, 2oz
Holes are cut in PCB material for F6-F8. The ferrites are thermally epoxied to the spreader for heat dissipation.

SYMBOL	VALUE	PART NUMBER	SOURCE
C1, C5, C6, C23-C26, C29, C28, C22, C24, C27	10nF	ATC200B103MW50X	AMERICAN TECHNICAL CERAMICS
C2	4.7pF	ATC100B4R7BW500X	AMERICAN TECHNICAL CERAMICS
C3,C22,C25,C28	1nF	ATC200B102MW50X	AMERICAN TECHNICAL CERAMICS
C9, C10	820pF	ATC700B821JW50X	AMERICAN TECHNICAL CERAMICS
C11	5.6pF	ATC100B5R6BW500X	AMERICAN TECHNICAL CERAMICS
C07	3.9pF	ATC100B3R9BW500X	AMERICAN TECHNICAL CERAMICS
C17	5.1pF	ATC100B5R1GW500X	AMERICAN TECHNICAL CERAMICS
C21	2.7pF	ATC100B2R7BW500X	AMERICAN TECHNICAL CERAMICS
C24, C27, C30	100nF	ATC200B104MW50X	AMERICAN TECHNICAL CERAMICS
C31-C38	10uF	74-293D50V10	MOUSER ELECTRONICS
C39	47uF	63V Electrolytic Capacitor	Digi-Key
D1	12V	1N5242BDICT-ND	DIGIKEY
F1-F3	125mu	BN-61-2402	AMIDON INDUCTIVE COMPONENTS
F4-F8	125mu	12-365-K	AMIDON INDUCTIVE COMPONENTS
J1, J2	50 Ohm	PE4000	PASTERNACK ENTERPRISES, INC.
L1, L2	8nH	A03TGL	Coilcraft
L3	22AWG	17-turn around FT-50-43	Handmade around AMIDON toroid
L4	22AWG	9-turn around R19	HANDMADE
L5, L6	16AWG	14-turn Coil, ID: 0.2"	HANDMADE
Q1	LQ801	LQ801	POLYFET RF DEVICES, INC.
Q2	LB501	LB501	POLYFET RF DEVICES, INC.
R1-R4	10 Ohm	P10ECT-ND	DIGIKEY
R5, R6	200 Ohm	200-282-2-RC	DIGIKEY
R7-R12	12 Ohm	P12ECT-ND	DIGIKEY
R13, R14	12 Ohm	12QBK-ND	DIGIKEY
R15, R16	100 Ohm	31-1001-100-5	FLORIDA RF LABS
R17, R18, R20, R22	10K Ohm	10KQBK-ND	DIGIKEY
R19	220 Ohm	220H-ND	DIGIKEY
R21	2.2K Ohm	2.2KH-ND	DIGIKEY
R23, R24	10K Ohm	ST5W103CT-ND	DIGIKEY
T1	50 Ohm	UT34-50, Semi-rigid Coax, L=2.5"	AMAWAVE
T2a, T2b	10 Ohm	UT34-10, Semi-rigid Coax, L=2.5"	AMAWAVE
T3a, T3b	10 Ohm	UT70-10, Semi-rigid Coax, L=2.5"	AMAWAVE
T4	50 Ohm	UT85-50, Semi-rigid Coax, L=2.5"	AMAWAVE
U1	8V	NJM78L08A-ND	DIGIKEY

DRN BY: T. Chang	07/27/05	POLYFET RF DEVICES	
CHKD : J. Citrolo	03/11/10	TB167D, 30-512MHz, 100W, 30dB	
ELECT : M. Cervantes	3/11/10		
MECH : T. Chang	07/27/05		
MOD: M. Cervantes	3/11/10	SIZE / FSCM NO: LQ801-->LB501 Vds=28V Idq=1.2A	REV 6
QUAL :		SCALE : 1 : 1	SHEET 1 OF 1
PGMS :			