

TB269

Frequency=380-520MHz

Pout=250W

Gain=18.0dB

Vds=28Vdc

Idq=1.1A

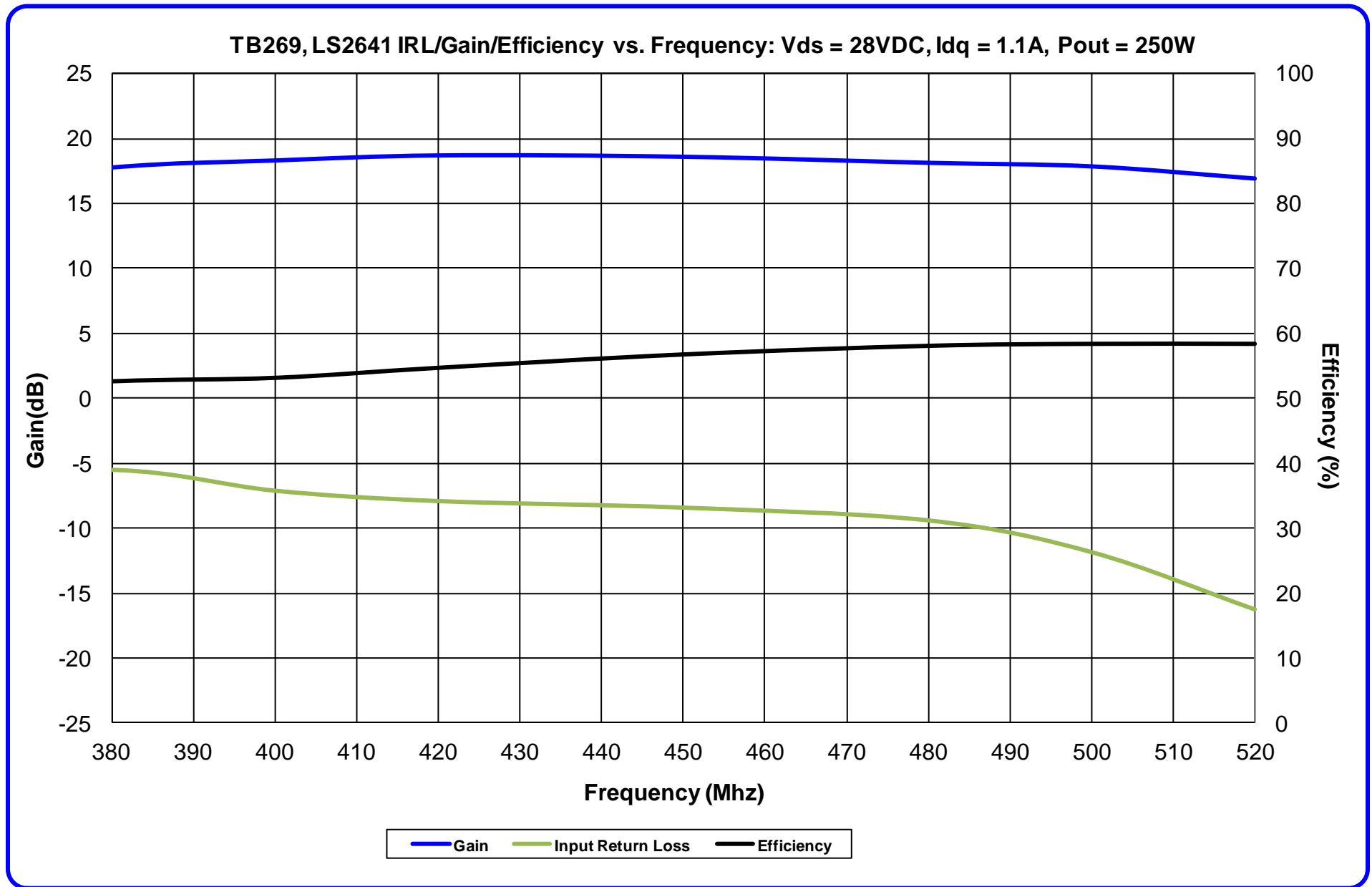
56% Efficiency

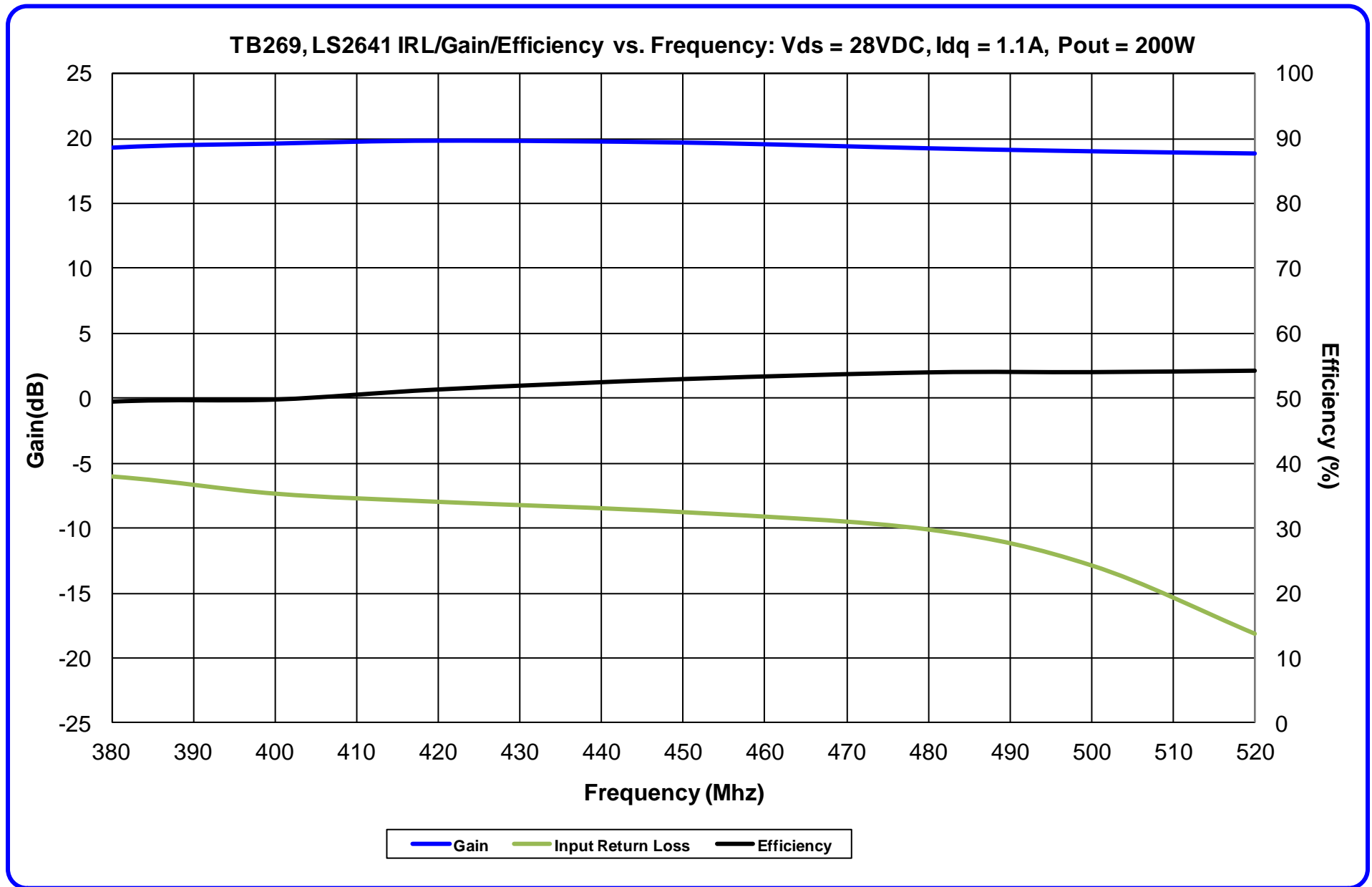
LS2641

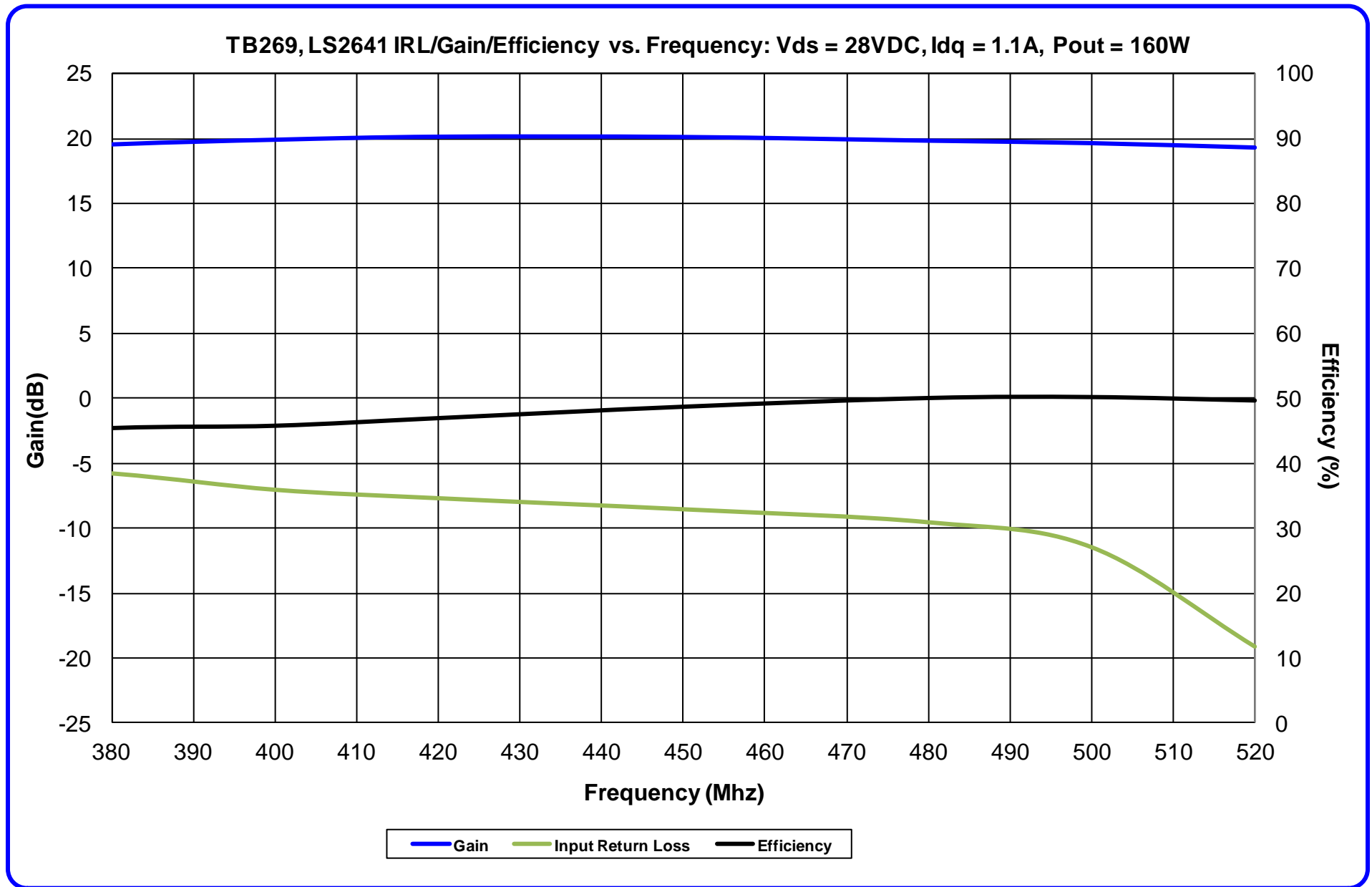


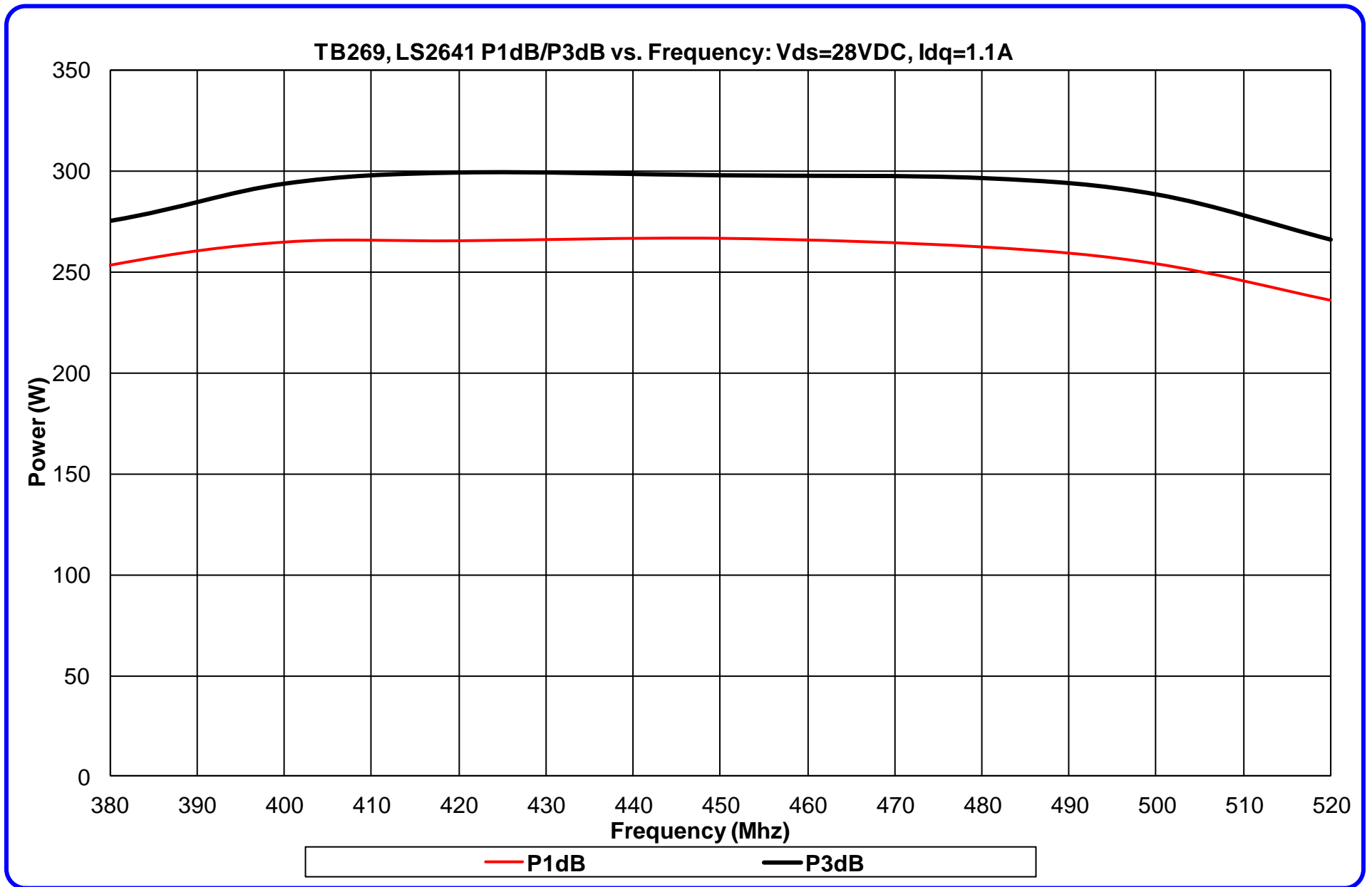
Order of Operations:

1. Review amplifier's performance curves in the data package to learn its RF power limitations.
2. Terminate the RF In/Out connectors to 50 ohm source and load impedance.
3. Connect Ground and Vds power supply to DC power supply.
4. Apply 28Vdc to Vds voltage.
5. Verify Idq= 1.01A (amps)
6. Apply RF drive signal (refer to curves in data package to avoid overdrive).
7. Avoid allowing the base plate to reach 85 deg C by using proper cooling techniques.

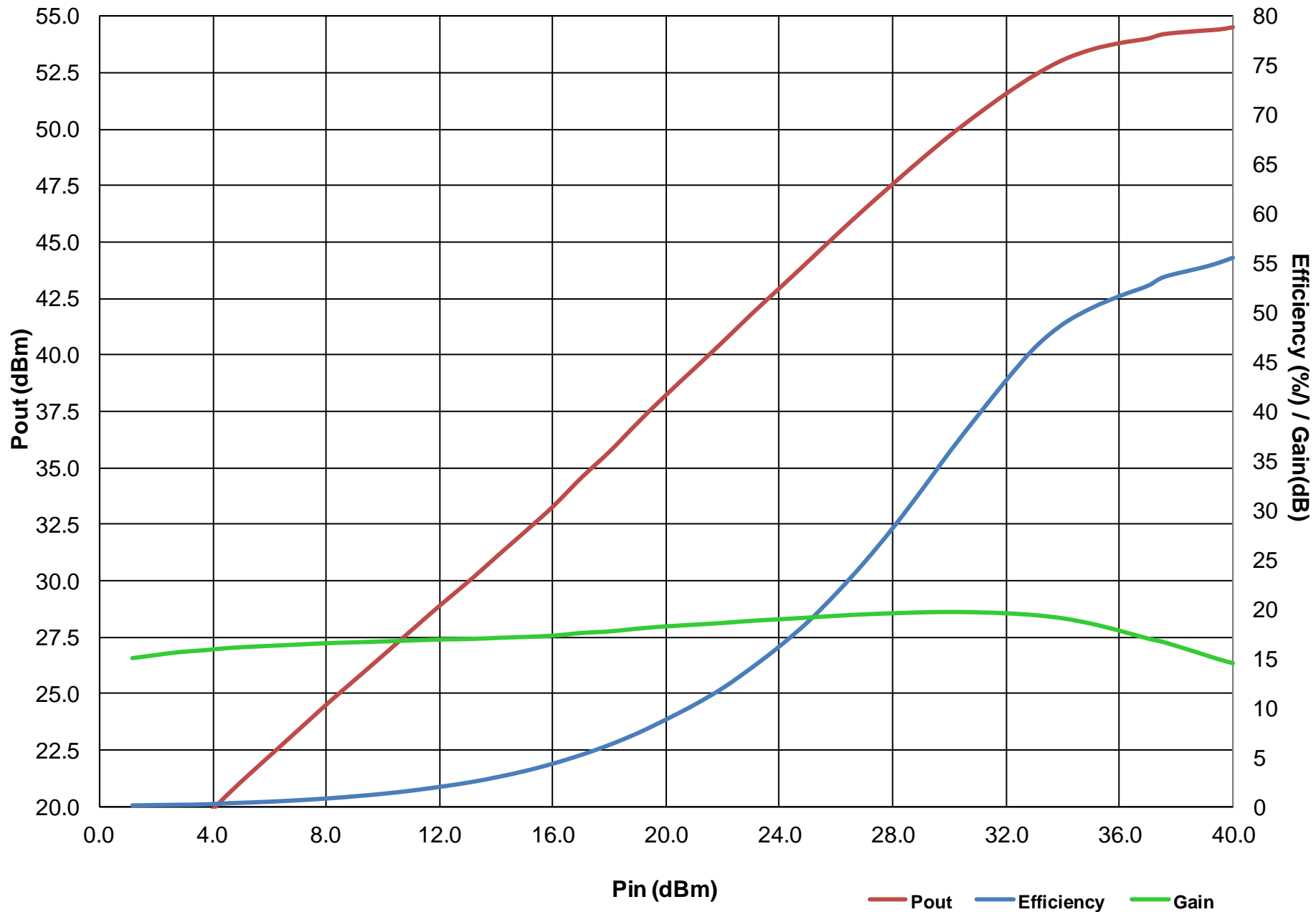




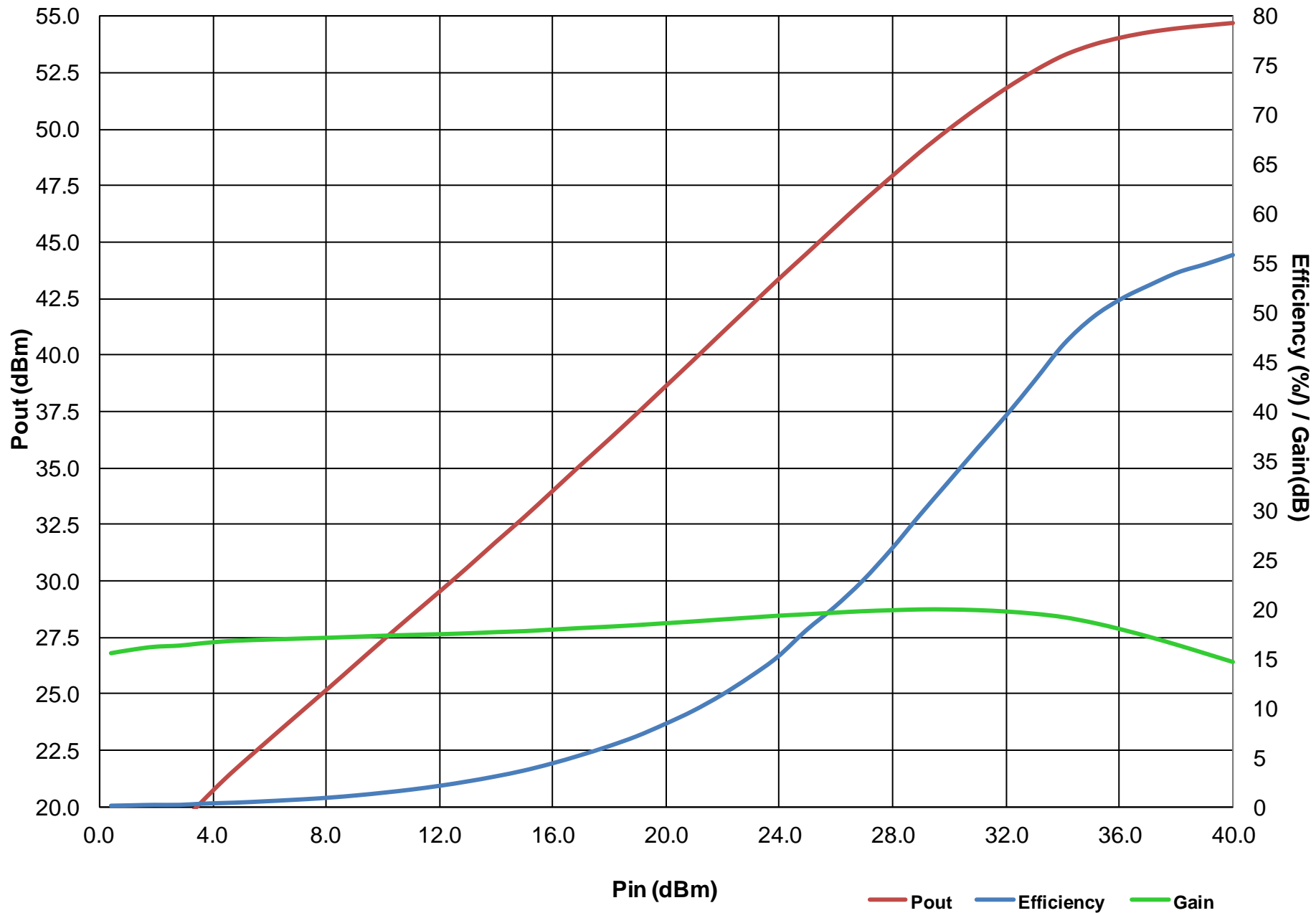




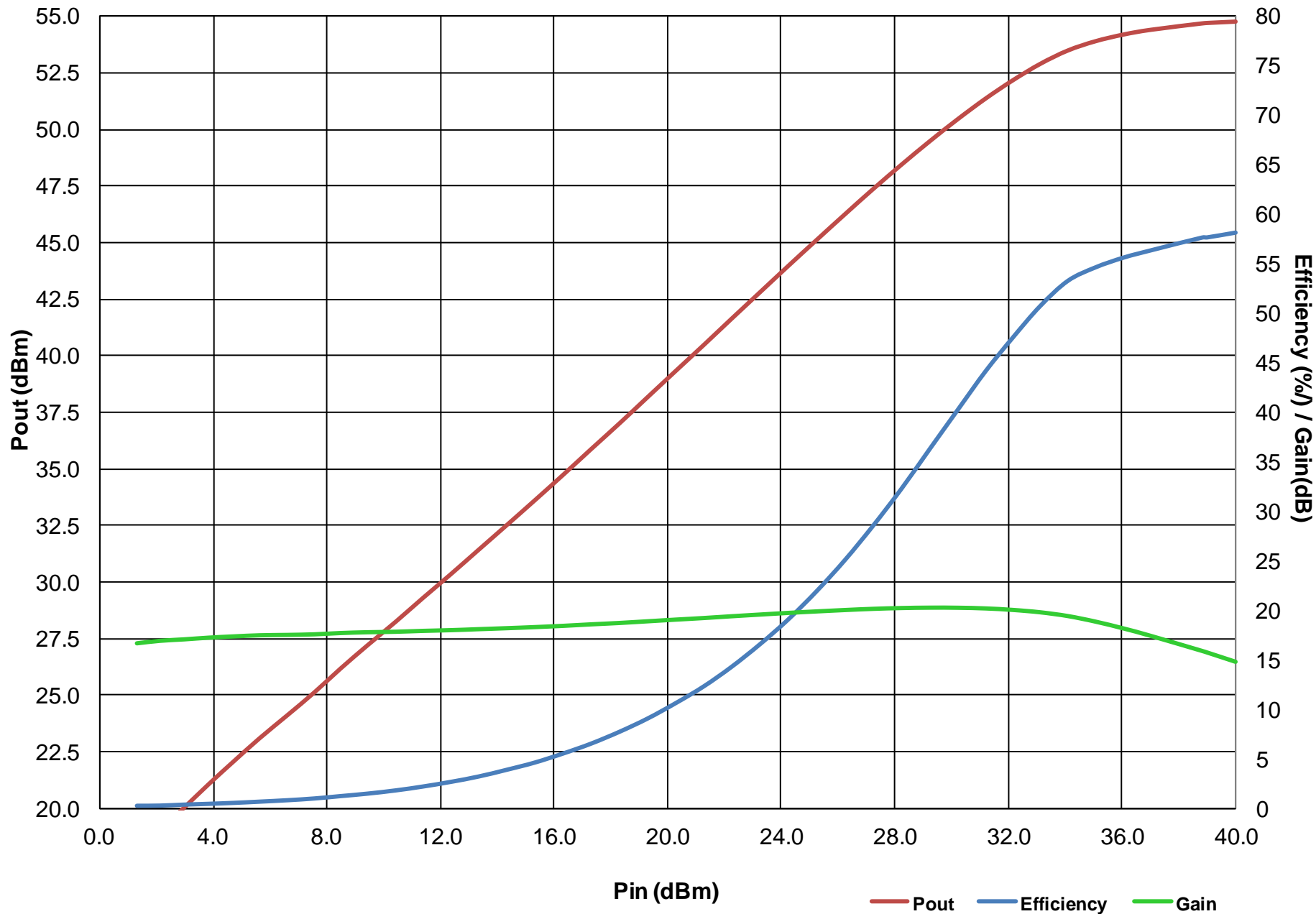
TB269 , LR2641 Pout/Gain/Efficiency vs. Pin : Vds = 28VDC, Idq = 1.1A, Freq = 380MHz



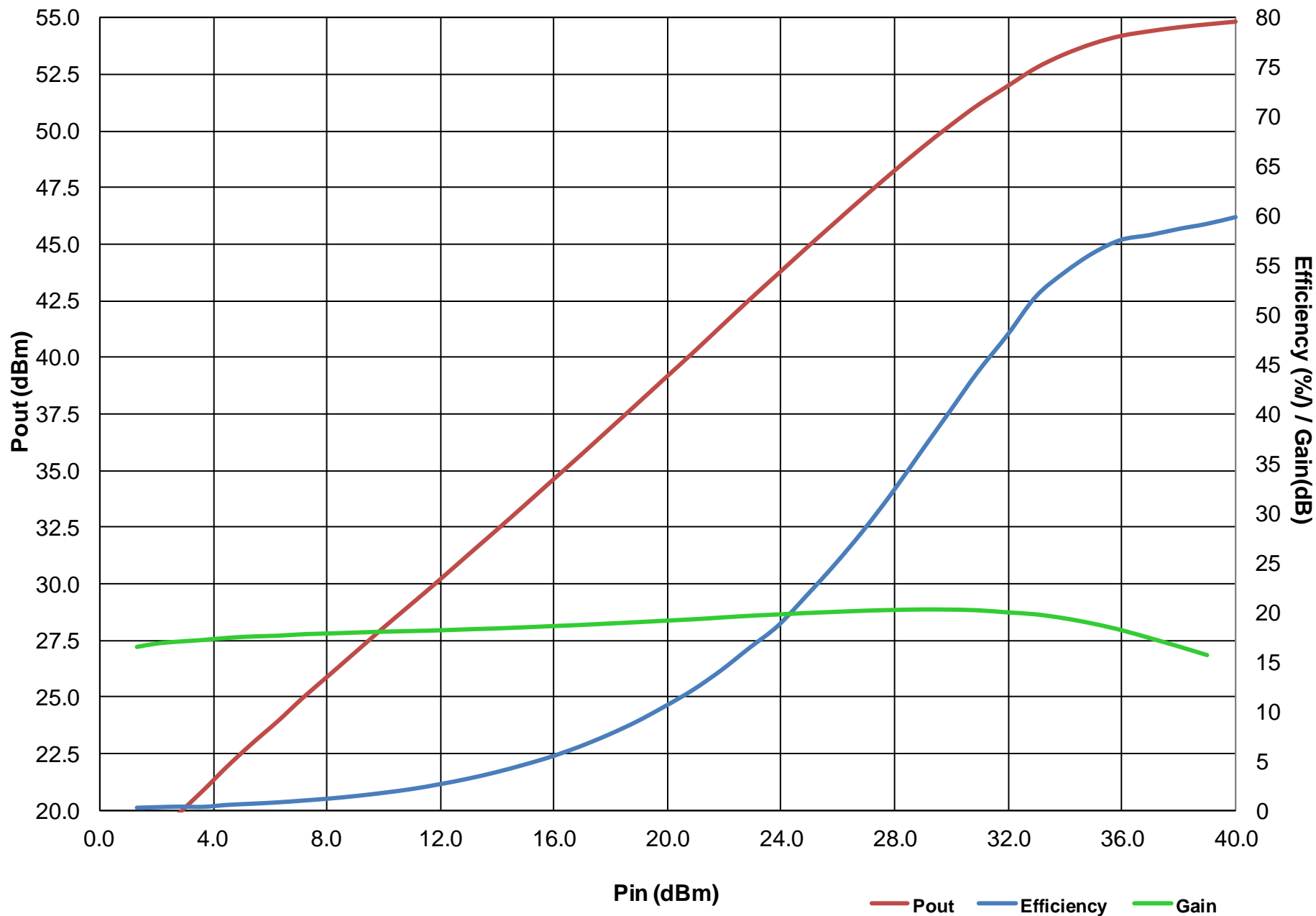
TB269 , LR2641 Pout/Gain/Efficiency vs. Pin : Vds = 28VDC, Idq = 1.1A, Freq = 400MHz



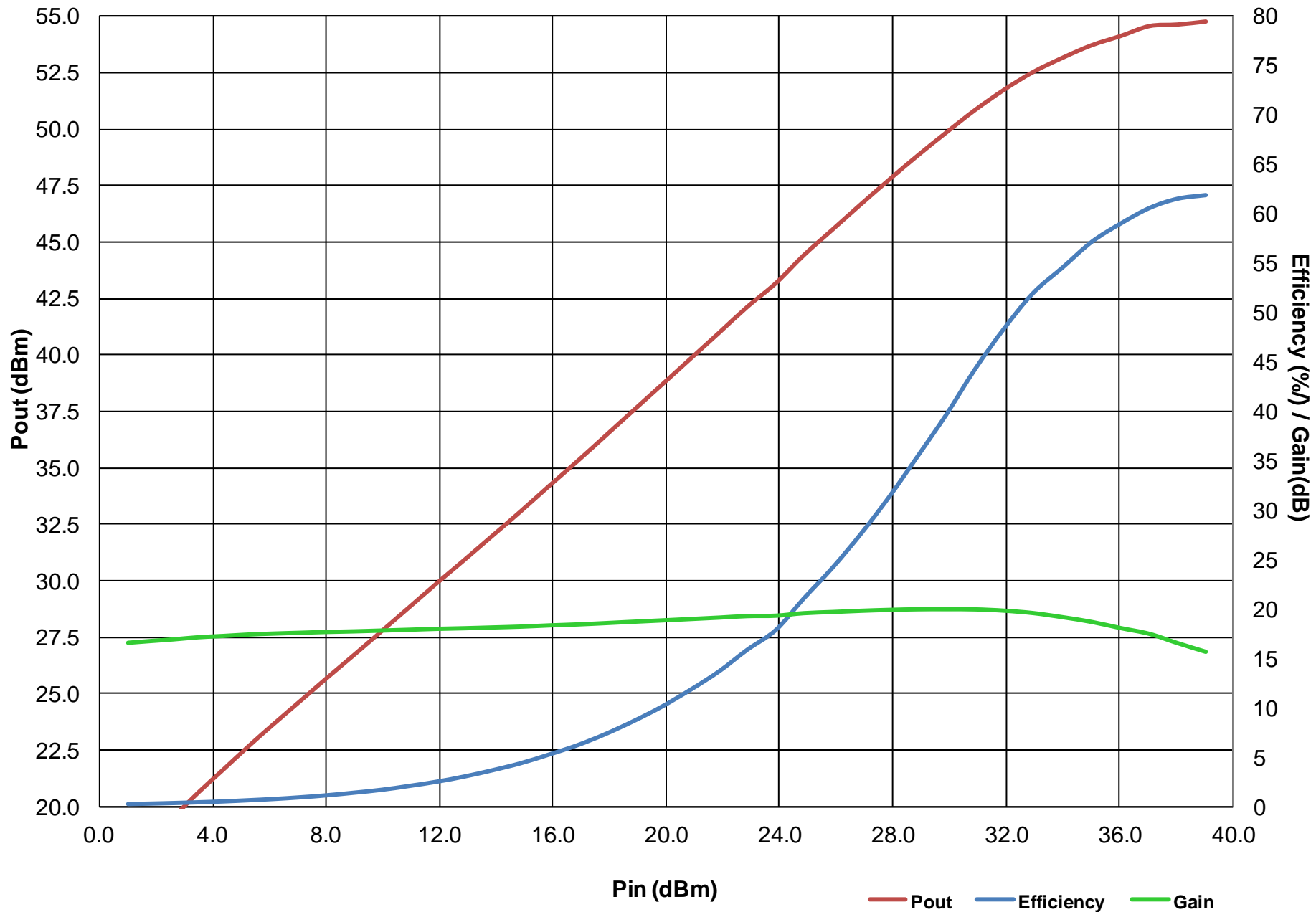
TB269 , LR2641 Pout/Gain/Efficiency vs. Pin : Vds = 28VDC, Idq = 1.1A, Freq = 420MHz



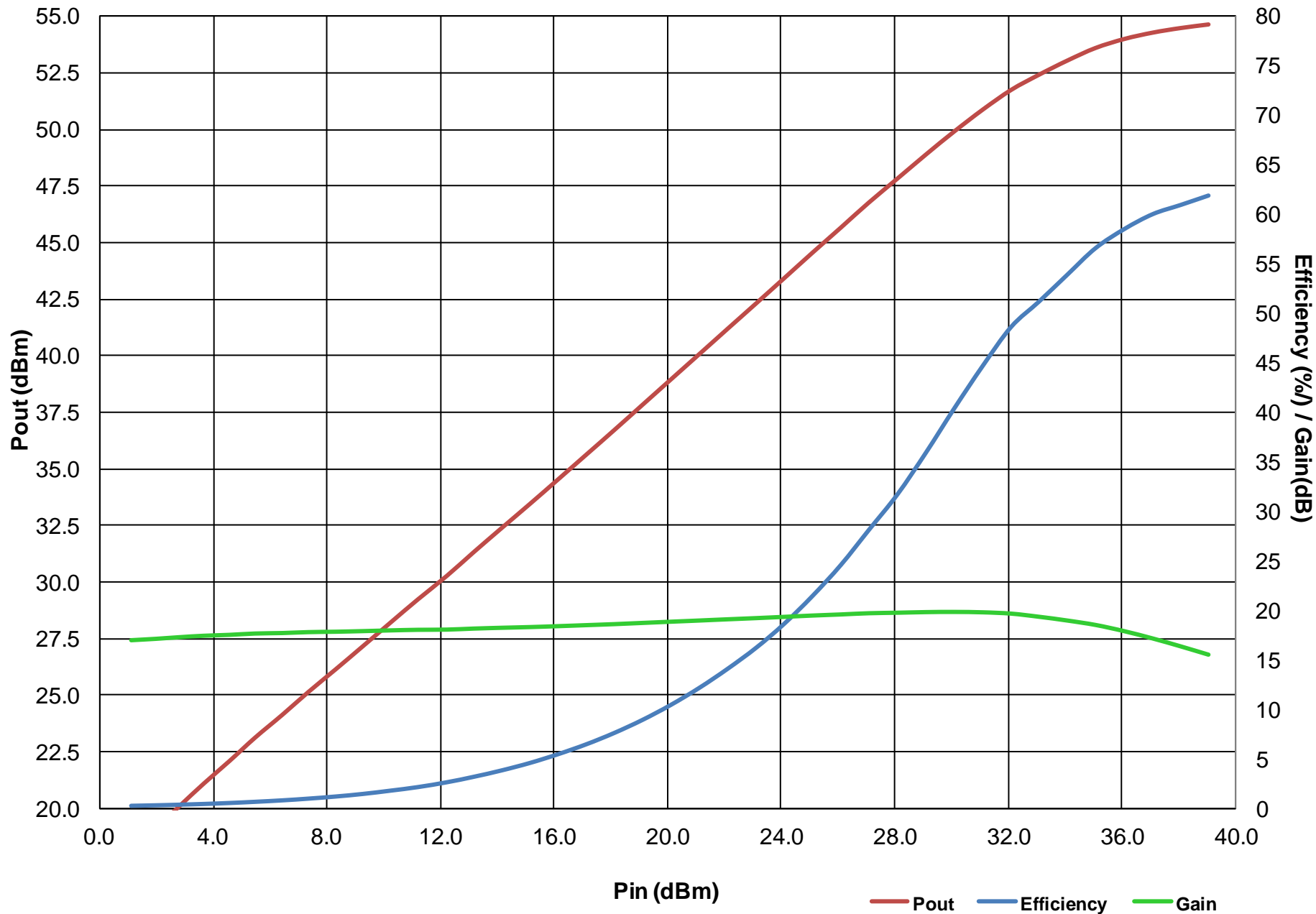
TB269 , LR2641 Pout/Gain/Efficiency vs. Pin : Vds = 28VDC, Idq = 1.1A, Freq = 450MHz



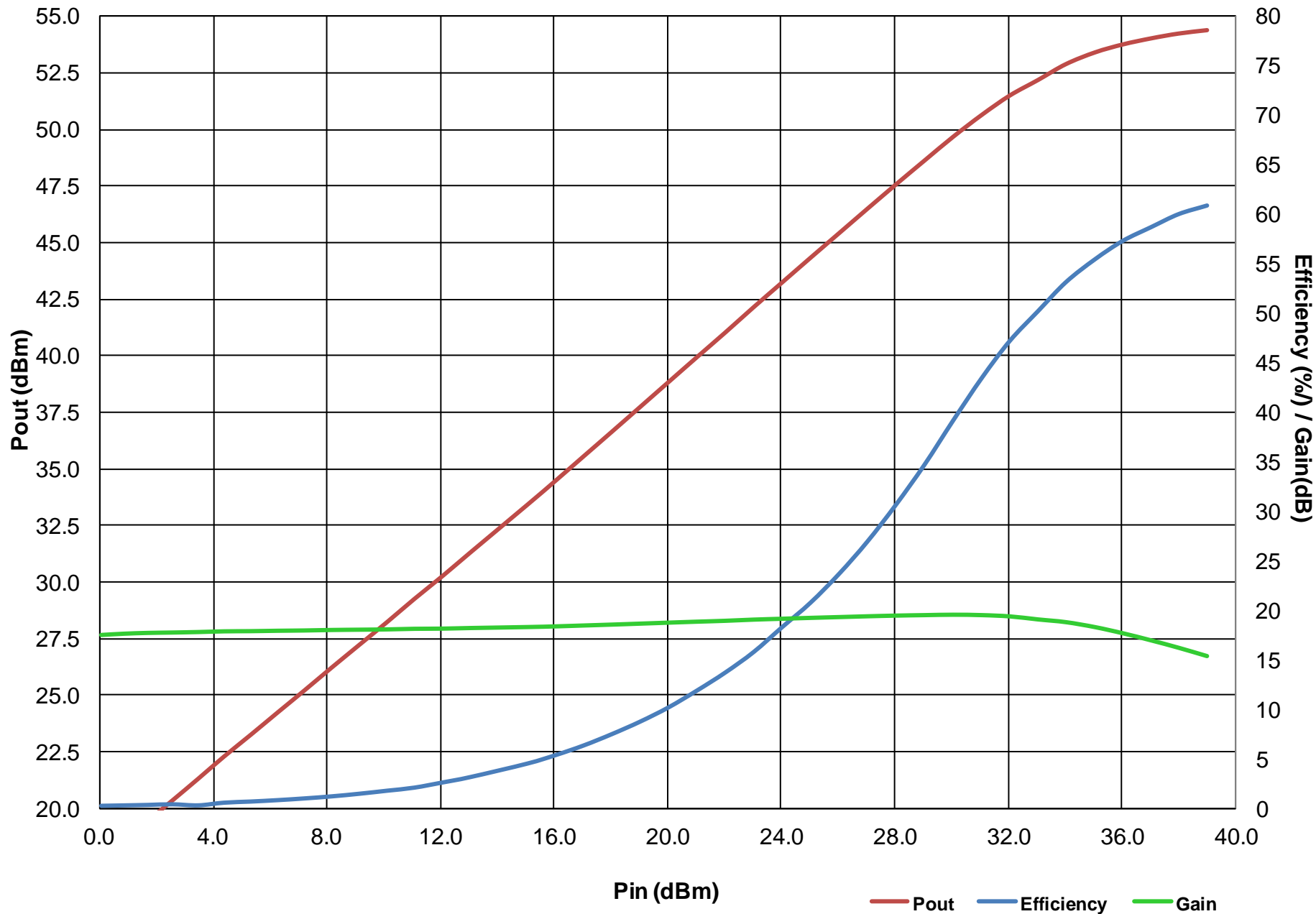
TB269 , LR2641 Pout/Gain/Efficiency vs. Pin : Vds = 28VDC, Idq = 1.1A, Freq = 480MHz

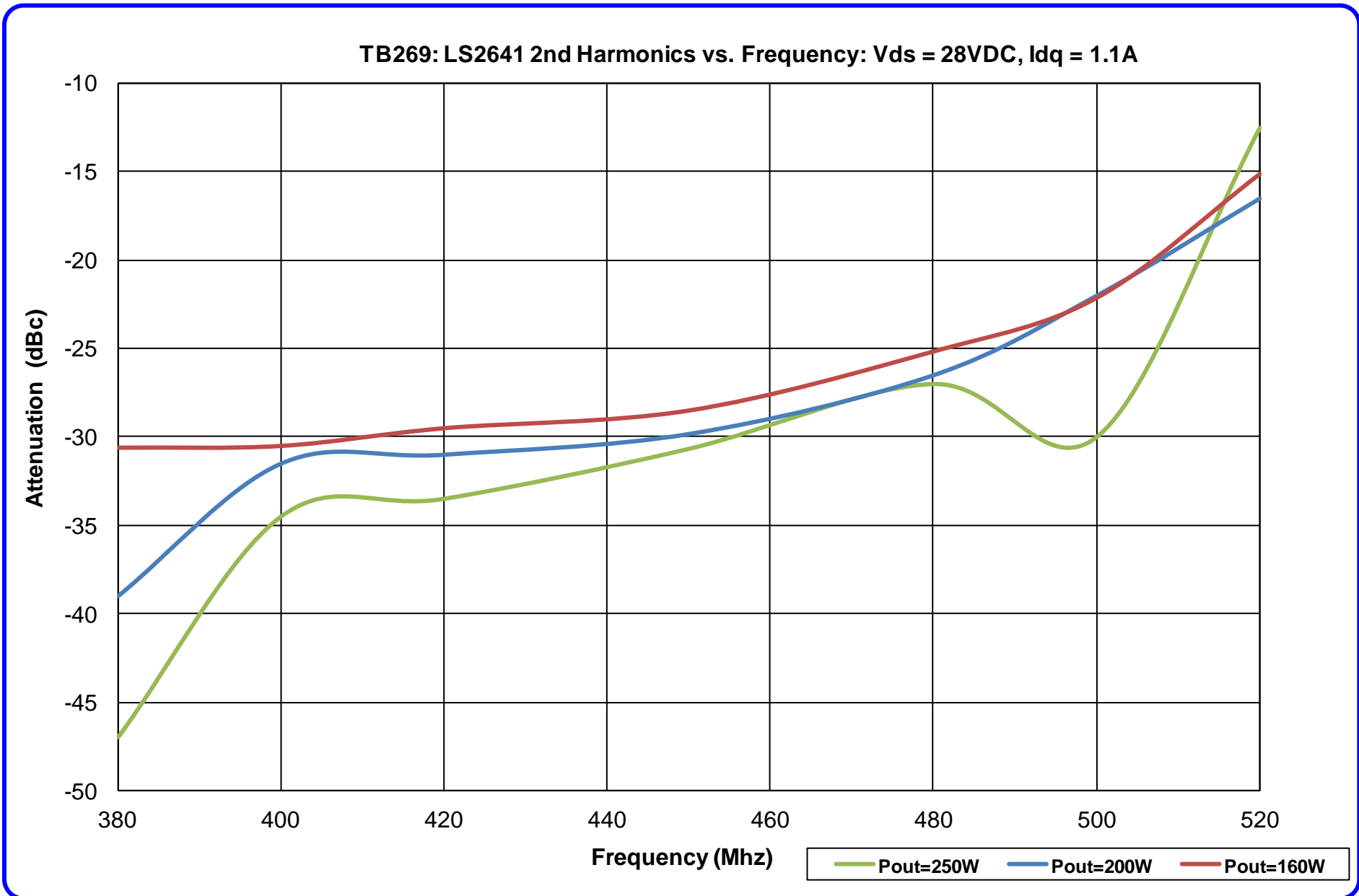


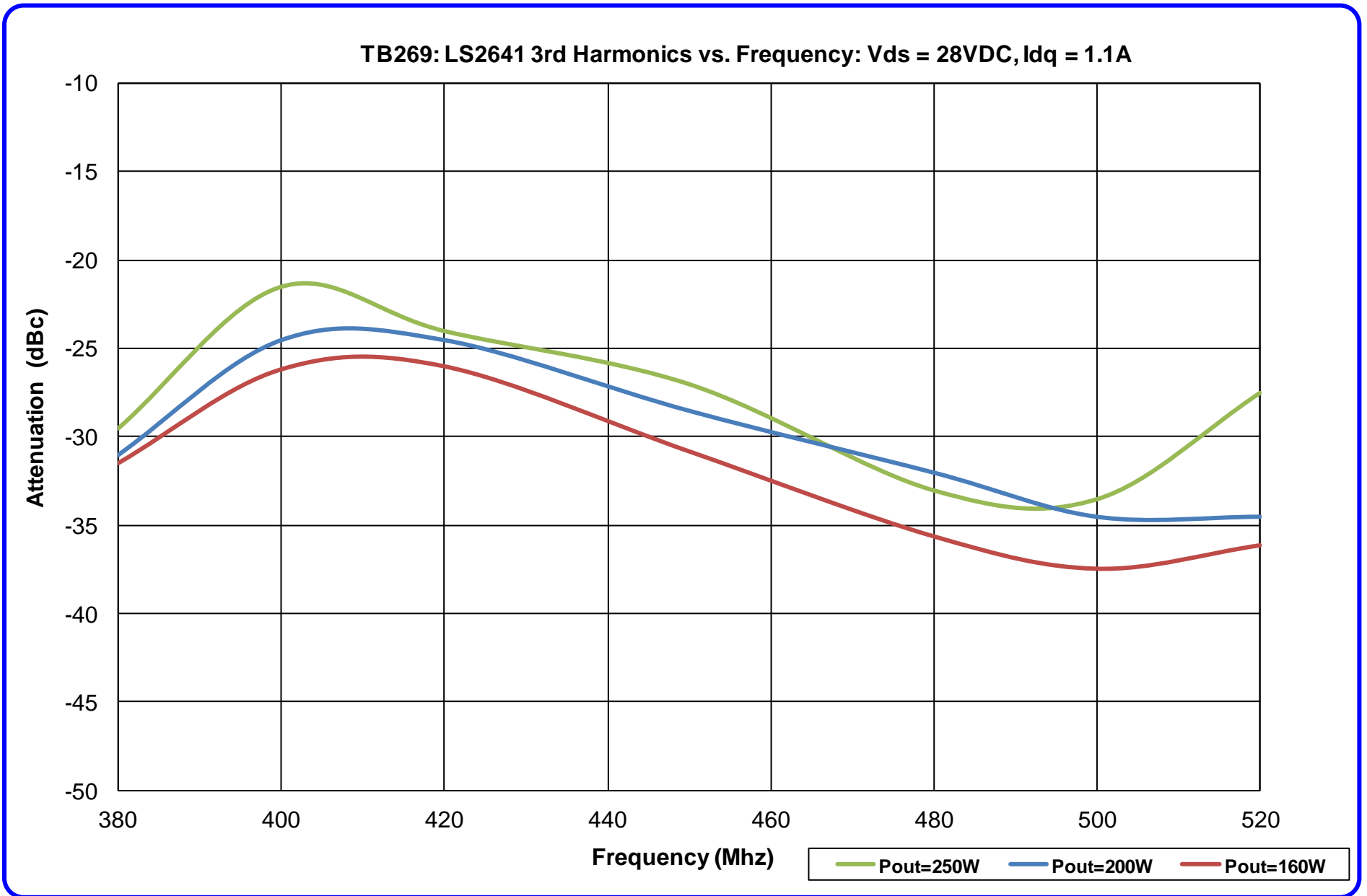
TB269, LR2641 Pout/Gain/Efficiency vs. Pin : Vds = 28VDC, Idq = 1.1A, Freq = 500MHz

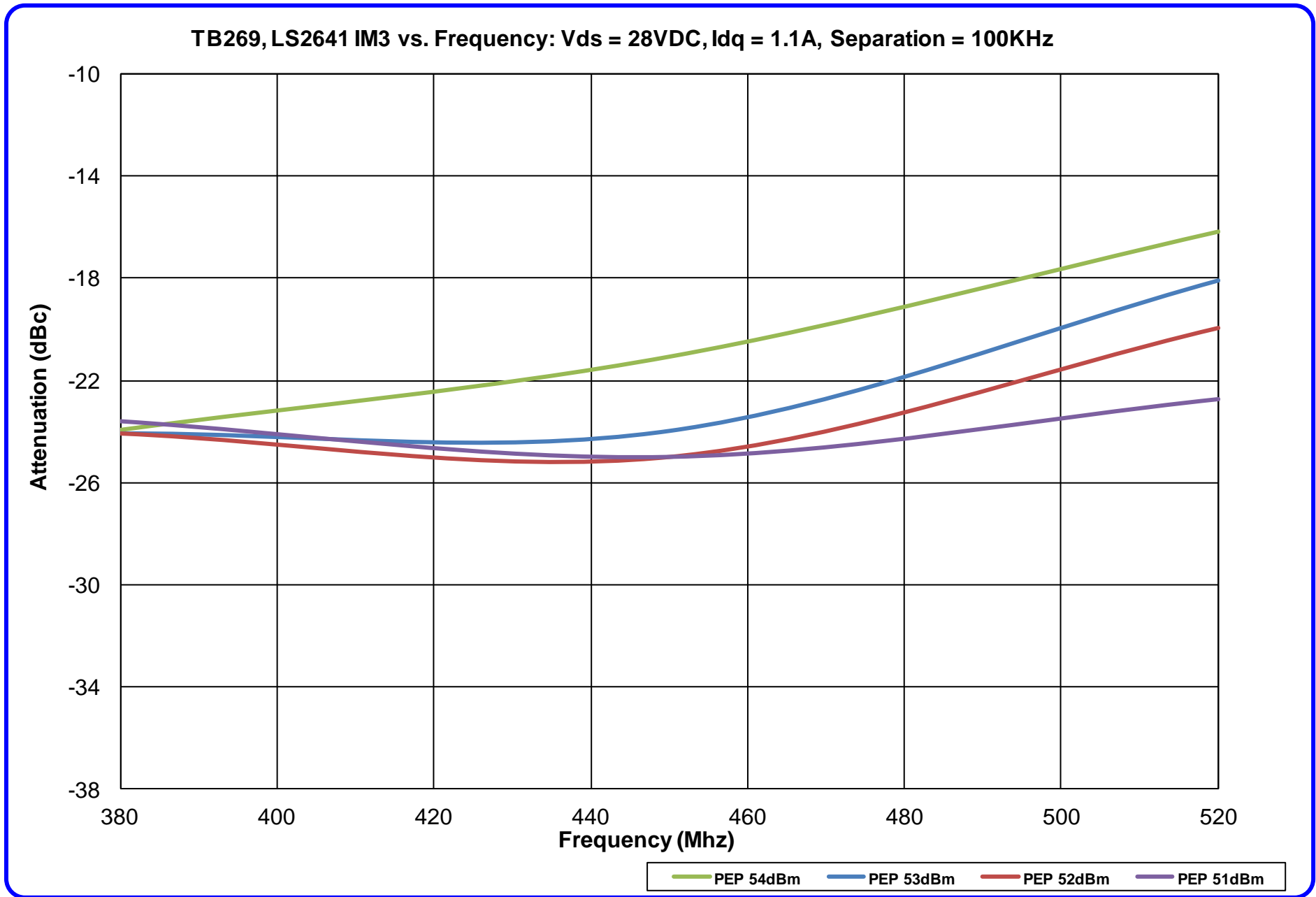


TB269, LR2641 Pout/Gain/Efficiency vs. Pin : Vds = 28VDC, Idq = 1.1A, Freq = 520MHz

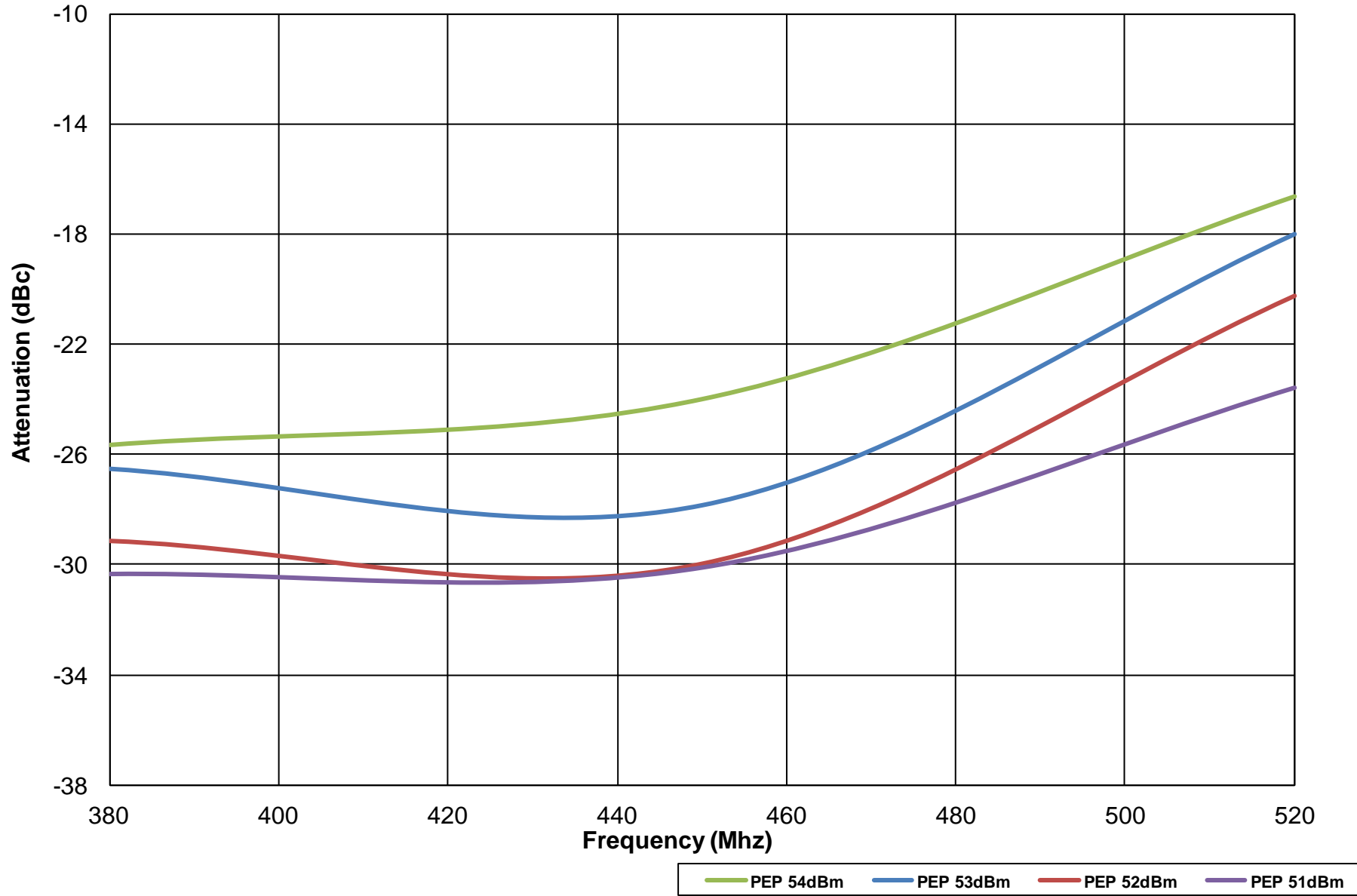


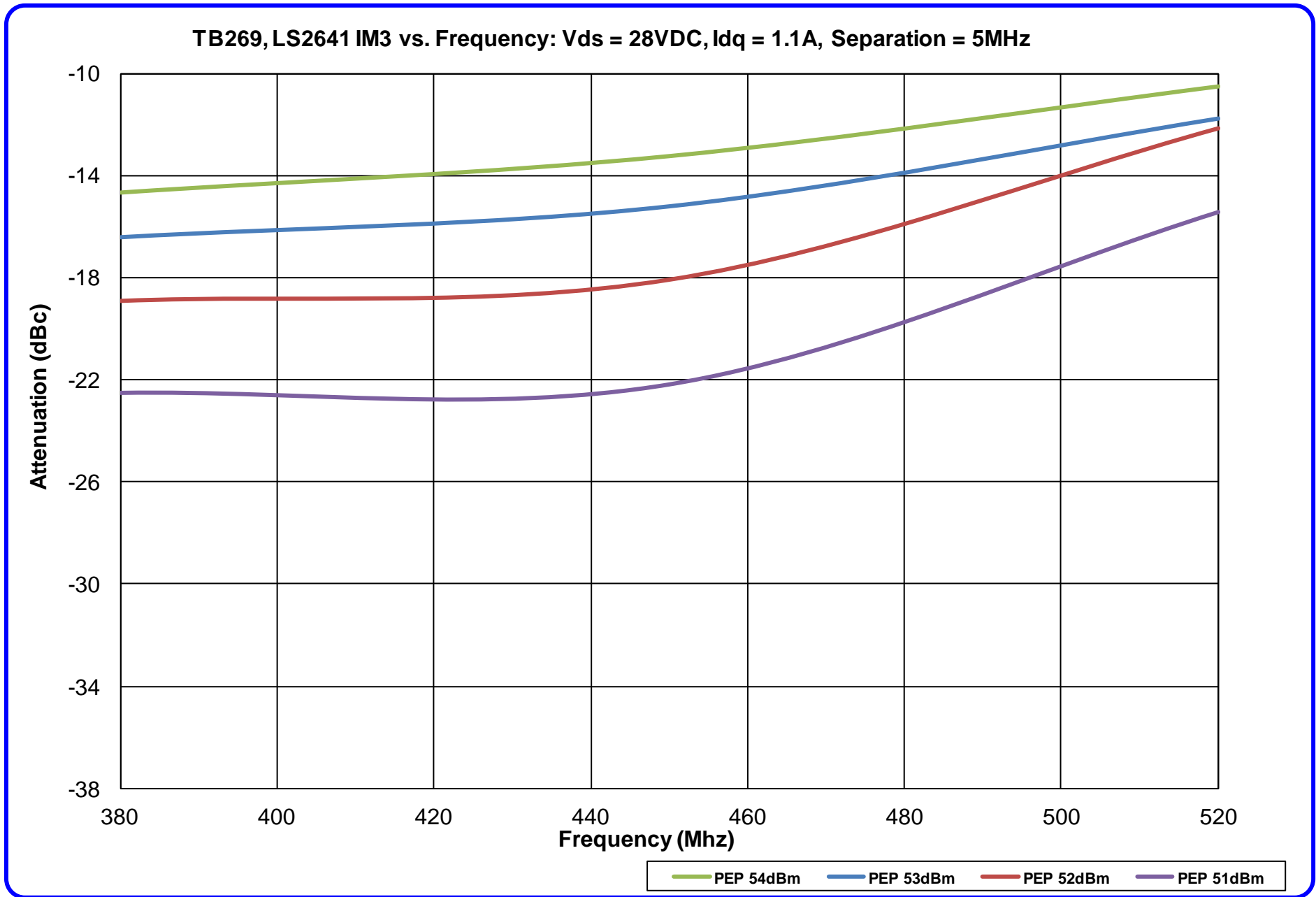




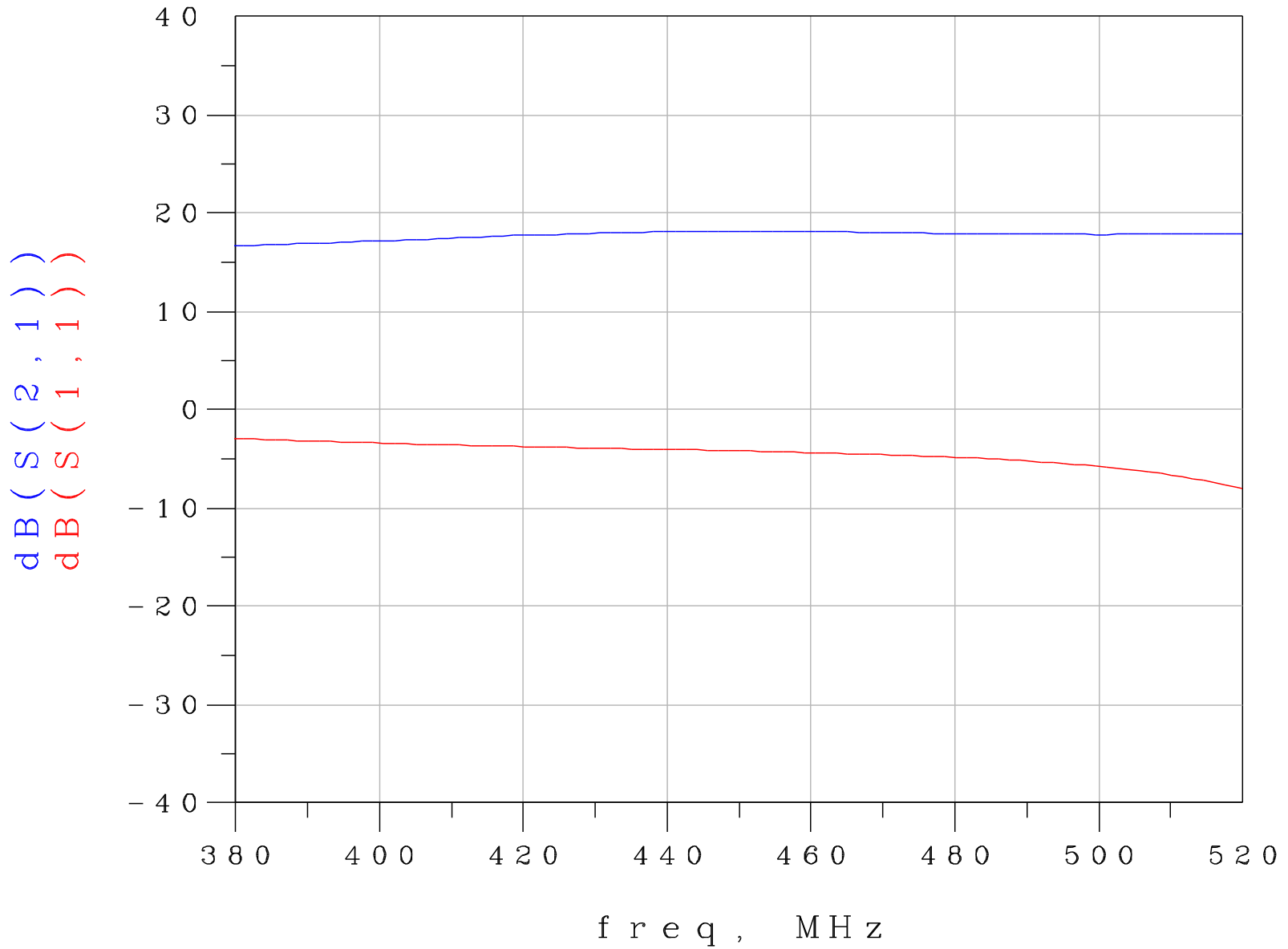


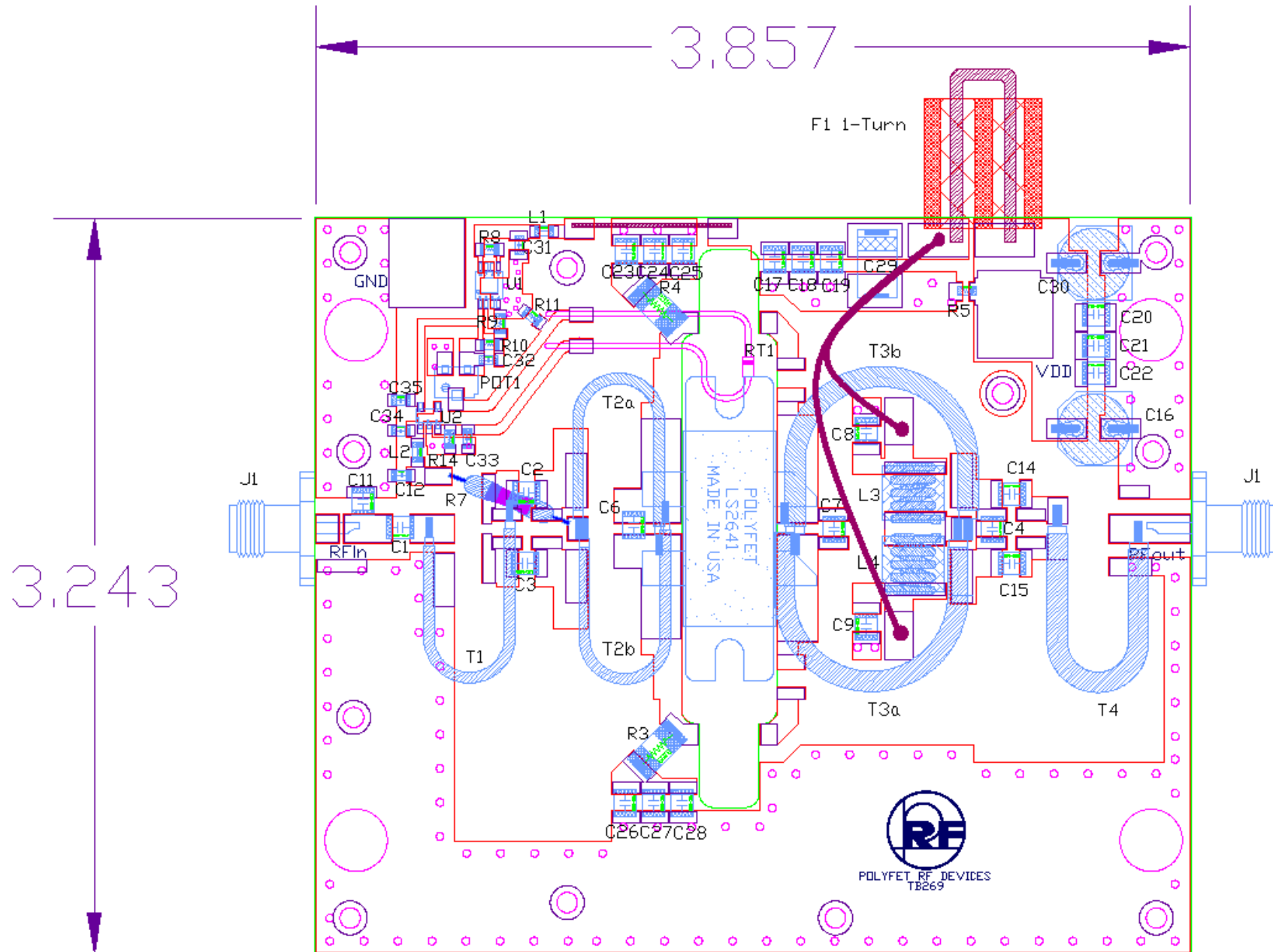
TB269, LS2641 IM3 vs. Frequency: Vds = 28VDC, Idq = 1.1A, Separation = 1MHz



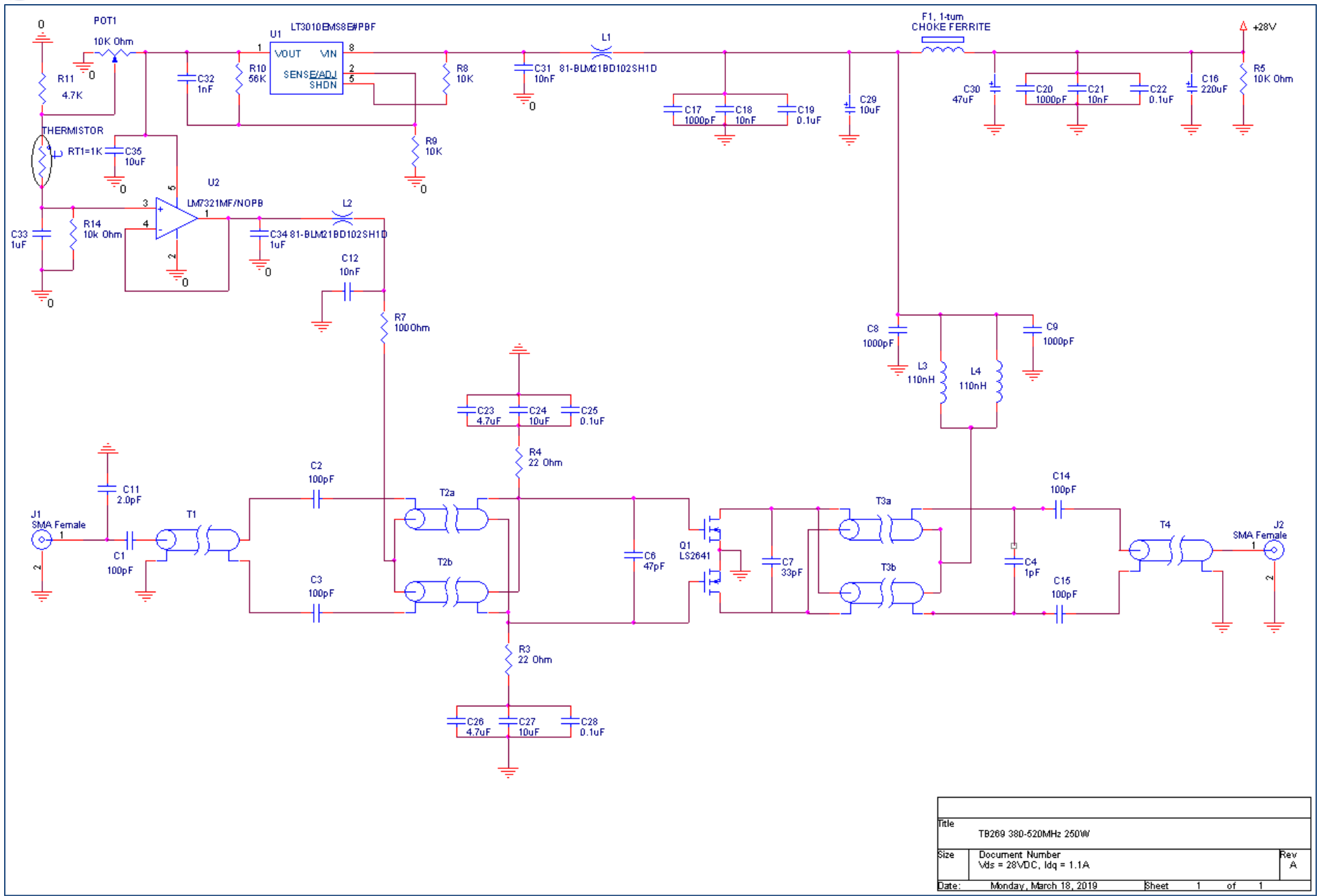


TB269 : LS2641, Vds=28VDC, Idq=1.1A





Units in Inches



Title		
TB269 380-520MHz 250W		
Size	Document Number	Rev
	\\$s = 28VDC, Idq = 1.1A	A
Date:	Monday, March 18, 2019	Sheet 1 of 1

NOMENCLATURE	DESCRIPTION	VENDER	VENDER PART #
C1,C2,C3,C14,C15	100pF +/-2% Ultra-low ESR, Microwave Cap., 1111N	Passive Plus, Inc	1111N101GW500
C4	1pF +/-2% Ultra-low ESR, Microwave Cap., 1111N	Passive Plus, Inc	1111N1R0BW501
C6	47pF +/-2% Ultra-low ESR, Microwave Cap., 1111N	Passive Plus, Inc	1111N470BW501
C7	33pF +/-2% Ultra-low ESR, Microwave Cap., 1111N	Passive Plus, Inc	1111N330BW501
C8,C9,C17,C20	1000pF +/-2% Ultra-low ESR, Microwave Cap., 1111N	Passive Plus, Inc	1111N102GW500
C11	2pF +/-2% Ultra-low ESR, Microwave Cap., 1111N	Passive Plus, Inc	1111N2R0BW501
C12,C31	CAP 10,000PF 0505X 50V TOL +10%	Passive Plus, Inc	0505X103KW500
C16	Aluminum Electrolytic Capacitors - SMD 35Volts 220uF 20%	United Chemi-Con	EMZJ350ADA221MHA0G
C19,C22,C25,C28	0.1uF +/-10% RF By-Pass Capacitors,1111X	Passive Plus, Inc	1111X104KW500
C24,C27	10uF TANCERAM HIGH CAP. SMD 1206	Passive Plus, Inc	PPI-GMC31X5R106K10
C23,C26	4.7uF TANCERAM HIGH CAP. SMD 1206	Passive Plus, Inc	PPI-GMC31X7R475K25NT
C18,C21	10,000pF +/-10% RF By-Pass Capacitors,1111X	Passive Plus, Inc	111X103KW500
C29	10uF 63V 20% AVX Tantalum Capacitors	AVX	TCJE106M063R0100
C30	Aluminum Electrolytic Capacitors - SMD 47UF 35V TK SMD	Panasonic	EE-TK1V470P
C32	1nF 10% Hi-Q/Low ESR	Passive Plus, Inc	0505x102KW500
C33,C34	1uF 10%TAMCERAM HIGH CAP. SMD 603	Johanson Dielectrics	250r14x105kv4t
C35	10uF 10%TAMCERAM HIGH CAP. SMD 805	Johanson Dielectrics	100r15x106kv4e
R3,R4	RES 22ohm 2W 1% 2512 SMD	Stackpole Electronics Inc	RHC2512FT22R0
R5	RES 10K OHM 1/4W 5% 1206 SMD	Rohm Semiconductor	MCR18EZPJ103
R7	RES 100 1/2W 5% CARBON FILM	Stackpole Electronics Inc	CF12JT100R
R8,R9,R14	10K 1/4W 0805 SMD	Rohm Semiconductor	MCR10EZJH103
R10	56K 1/4W 0805 SMD	Rohm Semiconductor	MCR10EZPJ563
R11	4.7K 1/4W 0805 SMD	Rohm Semiconductor	MCR10EZPF4701
RT1	1000 OHM TEMP SENSOR AXIAL	NXP Semiconductors	KTY83/110,113
POT1	Trimmer Resistors - 10K OHM 0.25W SMD	Murata Electronics North America	PVG5A103C03R00
L1,L2	0805 1kohms HiSpeed EMI Filter Beads,Chokes & Arrays	Murata Electronics North America	81-BLM21BD102SH1D
L3,L4	110nH Square Air Core Inductors	CoilCraft	2222SQ-111JE
WIRE	18 AWG Hook-up Wire UL	Belden	83029 0061000
U1	IC REG LDO ADJ 50mA 8-MSOP	Linear Technology	LT3010EMS8E#PBF
U2	IC OP AMP R-R I/O SOT23-5	National Semiconductor	LM7321MF/NOPB
T1	Semi-ridge Coax ,2 inch, 25ohm	MICROWAVE	UT-43-25
T2a,T2b	Semi-ridge Coax ,2 inch, 10ohm	MICROWAVE	UT-43-10
T3a,T3b	Semi-ridge Coax ,2 inch, 25ohm	MICROWAVE	UT-90-25
T4	Semi-ridge Coax , 2 inch, 25ohm	MICROWAVE	UT-90-25
F1	Material 4B1 250ui,EMI Suppressor	Ferroxcube	MHB2-14/8.5/14-4B1
J1,J2	PE4000-SF SMA Female; 4 Hole Panel Mount	Pasternack	PE4000-SF
PCB	material RO4350B 60mils(1.524mm) 2oz/2oz (70um/70um)	Rogers. Corp	RO4350B
Q1	LDMOS	Polyfet RF Devices	LS2641