

# APPLICATION NOTE AN-60-108

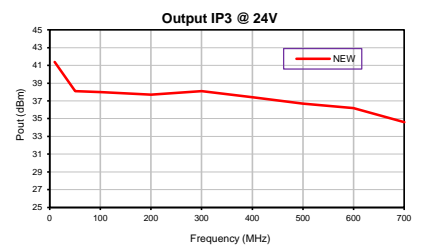
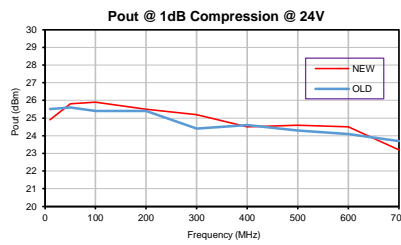
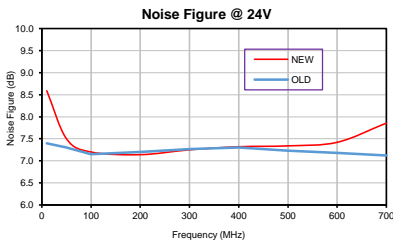
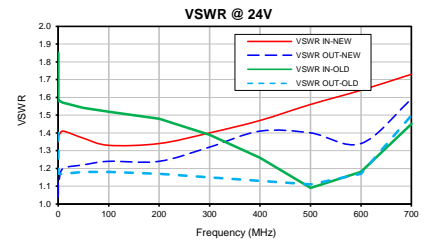
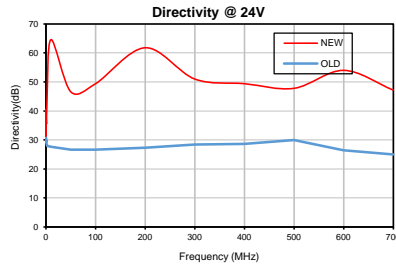
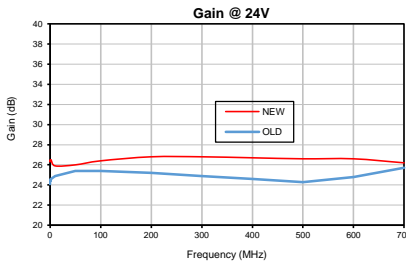
## ZHL-72A+ vs ZPUL-21

The new Catalog model ZHL-72A+ designed to replace the old one ZPUL-21 due to the RoHS version and EOL of the output transistor. Case Style S32 is not changed

### Typical Performance Data

FREQUENCY (MHz)	GAIN (dB)		DIRECTIVITY (dB)		VSWR (:1)				NOISE FIGURE (dB)		POUT @ 1 dB COMPRESSION (dBm)		OUTPUT IP3 (dBm)	
	NEW 24V	OLD 24V	NEW 24V	OLD 24V	IN (NEW) 24V	OUT (NEW) 24V	IN (OLD) 24V	OUT (OLD) 24V	NEW 24V	OLD 24V	NEW 24V	OLD 24V	NEW 24V	OLD 24V
0.0025	26.4	24.1	35.2	30.70	1.35	1.12	1.85	1.40						-
0.01	26.4	24.5	29.8	29.50	1.35	1.09	1.61	1.20						-
0.05	26.3	24.4	36.3	29.90	1.37	1.03	1.58	1.18						-
0.10	26.3	24.4	39.4	30.00	1.37	1.12	1.58	1.18						-
0.20	26.5	24.4	40.7	30.00	1.38	1.12	1.58	1.18						-
1.00	26.5	24.4	35.5	28.90	1.39	1.13	1.58	1.17						-
2.00	26.5	24.6	43.2	28.00	1.39	1.14	1.58	1.17						-
10.00	25.9	24.9	64.6	27.60	1.41	1.20	1.57	1.17	8.59	7.40	24.9	25.5	41.4	-
50.00	26.0	25.4	46.6	26.60	1.37	1.22	1.54	1.18	7.50	7.30	25.8	25.6	38.1	-
100.00	26.4	25.4	49.4	26.60	1.33	1.24	1.52	1.18	7.20	7.15	25.9	25.4	38.0	-
200.00	26.8	25.2	61.8	27.30	1.34	1.24	1.48	1.17	7.14	7.20	25.5	25.4	37.7	-
300.00	26.8	24.9	51.0	28.40	1.40	1.32	1.39	1.15	7.25	7.27	25.2	24.4	38.1	-
400.00	26.7	24.6	49.4	28.60	1.47	1.41	1.26	1.13	7.32	7.30	24.5	24.6	37.4	-
500.00	26.6	24.3	47.8	30.00	1.56	1.40	1.09	1.11	7.34	7.23	24.6	24.3	36.7	-
600.00	26.6	24.8	54.0	26.40	1.64	1.34	1.18	1.17	7.42	7.18	24.5	24.1	36.2	-
700.00	26.2	25.7	47.2	25.00	1.73	1.59	1.45	1.5	7.86	7.12	23.2	23.7	34.6	-

### Typical performance graphs



Note: Typical Amplifier response to a pulse input is not changed.

