

The logo for Artesyn Embedded Technologies, featuring the word "ARTESYN" in a large, bold, blue font with a white outline, and "EMBEDDED TECHNOLOGIES" in a smaller, white font below it. The background of the slide is a dark blue, abstract digital pattern with glowing blue squares and lines.

ARTESYN[™]
EMBEDDED TECHNOLOGIES

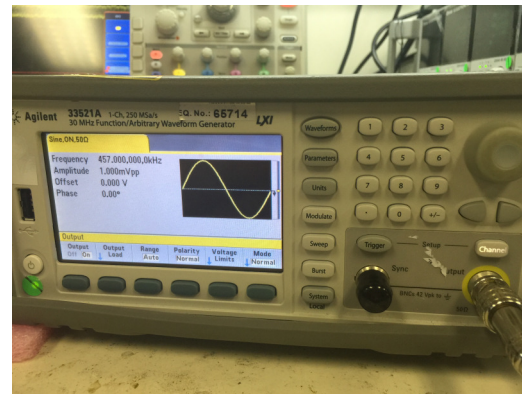
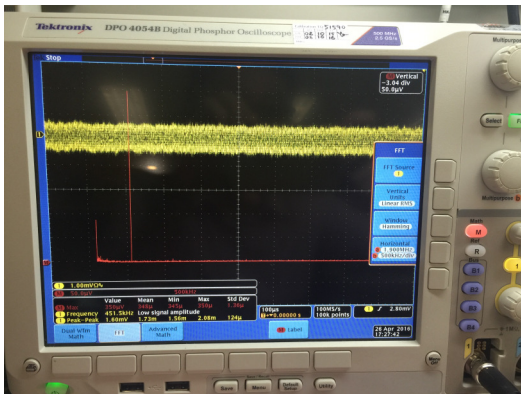
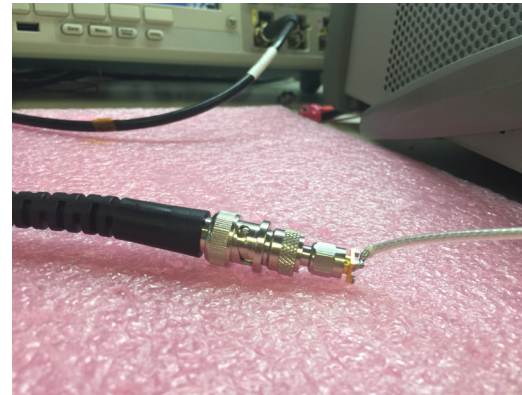
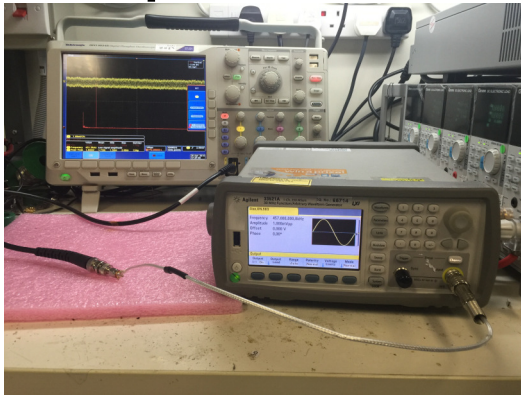
LGA80D FFT Test

Apr 27, 2016

Calibration data of the FFT measurement for Ripple

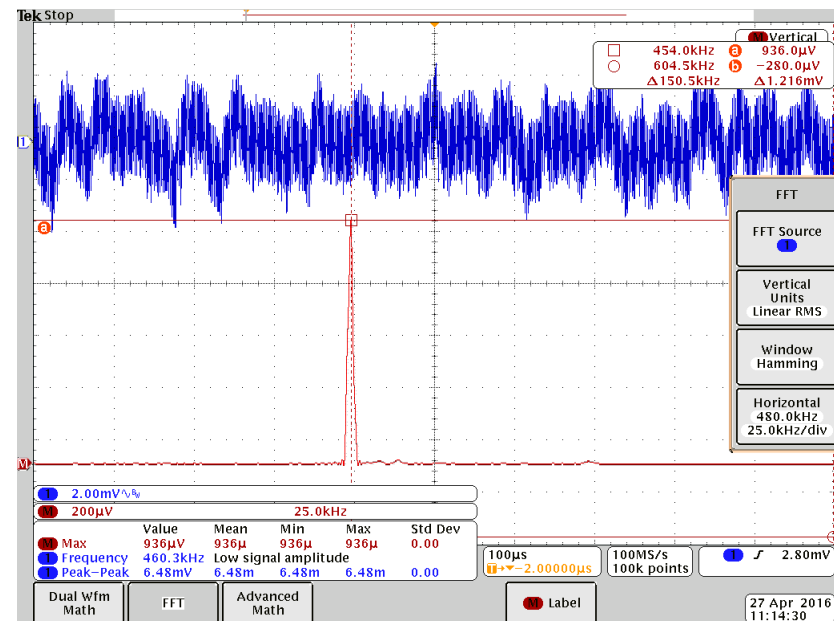
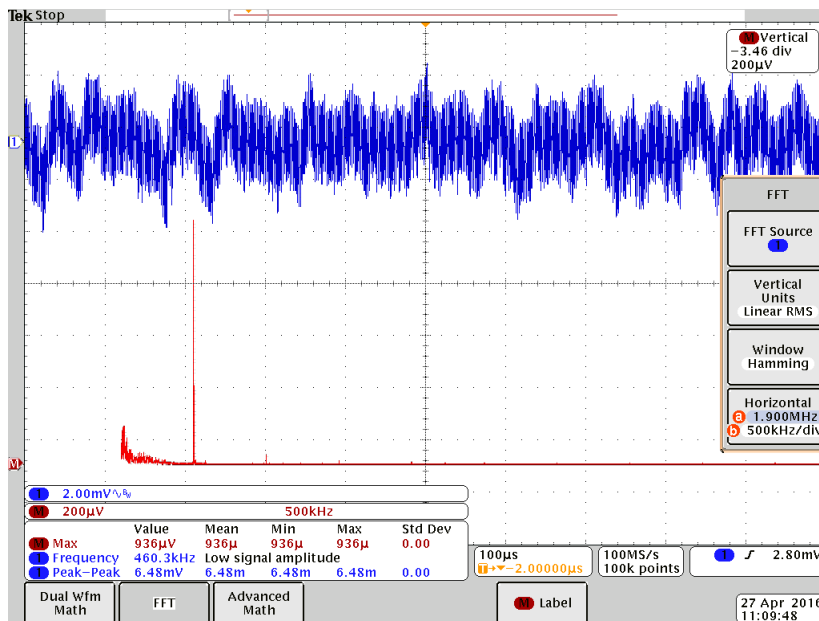
	Signal Injected(mV)	Offset(V)	Frequency(KHz)	Noise Measured(mV)	FFT Value(mV)	pk-pk Ripple(mV)	Error in measurement %
VIN	1	0	457	1.44	0.353	0.9984	-0.16%
VIN	2	0	457	2.52	0.692	1.9573	-2.14%
VIN	3	0	457	3.48	1.04	2.9416	-1.95%
VIN	4	0	457	4.6	1.39	3.9315	-1.71%
VIN	5	0	457	5.44	1.74	4.9215	-1.57%
VIN	6	0	457	6.4	2.08	5.8831	-1.95%
VIN	7	0	457	7.6	2.43	6.8731	-1.81%
VIN	8	0	457	8.4	2.78	7.8630	-1.71%
VIN	9	0	457	9.36	3.12	8.8247	-1.95%
VIN	10	0	457	10.5	3.48	9.8429	-1.57%
VIN	11	0	457	11.6	3.81	10.7763	-2.03%
VIN	12	0	457	12.4	4.16	11.7663	-1.95%
VIN	13	0	457	13.4	4.51	12.7562	-1.88%
VIN	14	0	457	14.6	4.86	13.7462	-1.81%
VIN	15	0	457	15.4	5.21	14.7361	-1.76%
VIN	16	0	457	16.6	5.57	15.7543	-1.54%
VIN	17	0	457	17.6	5.92	16.7443	-1.50%
VIN	18	0	457	18.6	6.27	17.7342	-1.48%
VIN	19	0	457	19.4	6.61	18.6959	-1.60%
VIN	20	0	457	20.4	6.96	19.6859	-1.57%
VIN	21	0	457	21.4	7.3	20.6475	-1.68%
VIN	22	0	457	22.4	7.65	21.6375	-1.65%
VIN	23	0	457	23.4	8	22.6274	-1.62%
VIN	24	0	457	24.4	8.36	23.6457	-1.48%
VIN	25	0	457	25.5	8.7	24.6073	-1.57%
VIN	26	0	457	27.2	9.06	25.6255	-1.44%
VIN	27	0	457	27.6	9.4	26.5872	-1.53%
VIN	28	0	457	28.8	9.76	27.6054	-1.41%
VIN	29	0	457	29.6	10.1	28.5671	-1.49%
VIN	30	0	457	31.2	10.5	29.6985	-1.01%
VIN	35	0	457	35.6	12.2	34.5068	-1.41%
VIN	40	0	457	40.4	14	39.5980	-1.01%

Calibration Set up with 0V offset @ 457KHz



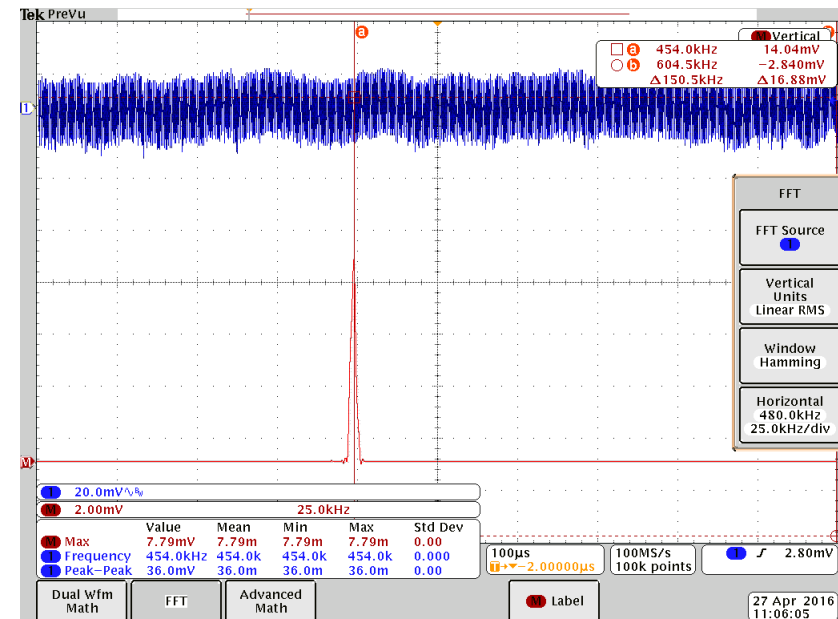
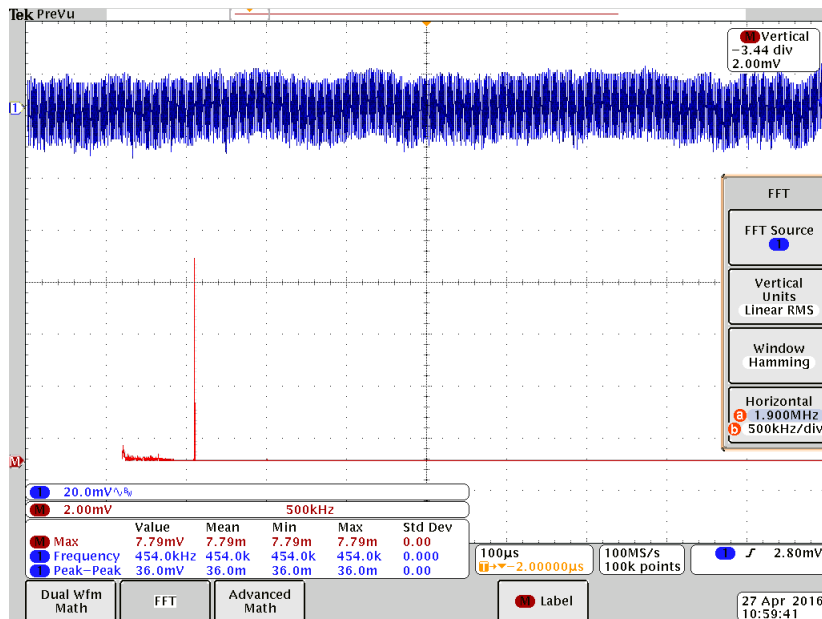
- Note: 1. The LGA80D default switching frequency is 457KHz.
 2. Using coaxial cable probe with the same connector as LGA80D demo board's.

FFT test data for Ripple at 12V/Vin, 1V/Vo, Full Load



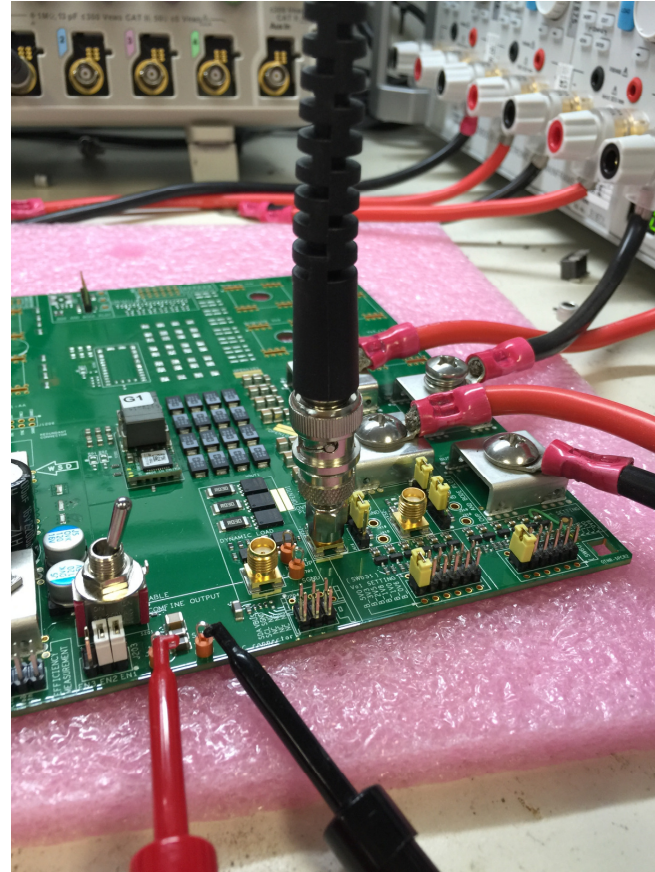
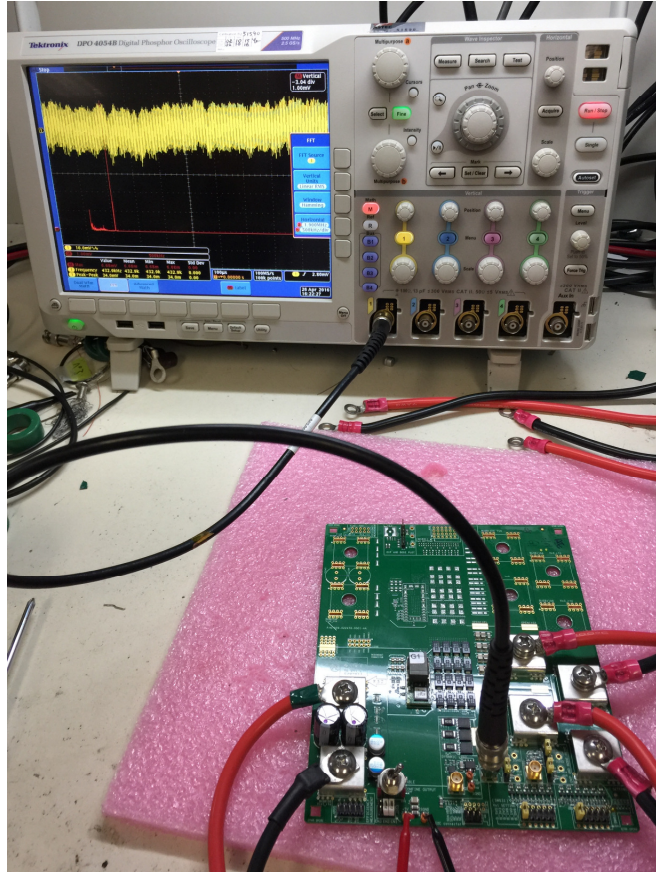
The peak value 936uV is at switching frequency(457kHz), the peak value at other frequency is very small

FFT test data for Ripple at 12V/Vin, 5V/Vo, Full Load



The peak value 7.79mV is at switching frequency(457kHz), the peak value at other frequency is very small

FFT Test Setup



Conclusion:

1. The FFT test data shows that LGA80D has very small harmonic at high/low frequency.
2. High output voltage has high ripple that cause high fundamental peak value.
3. The measurement error can be minimized by using coaxial cable probe with the same connector as LGA80D demo board's.