



PRODUCT AND PROCESS CHANGE NOTIFICATION

SERIAL NO: 0079	RAISED BY: Colin Smith (Operations Director)	DATE: 1 st April 2014
CUSTOMER: VARIOUS		
PRODUCT: Various – please see table attached		
PART NUMBER(S): Various – please see table attached		
CURRENT PRODUCT/PROCESS: The range of products detailed on this document incorporates Temperature Compensated Crystal Oscillator (TCXO) and Temperature Compensated Voltage Controlled Crystal Oscillator (TCVCXO) devices. Key features: <ul style="list-style-type: none">• Full custom Rakon “Pluto” ASIC.• Ceramic sub-assembly incorporating the ASIC die. The subassembly is manufactured by a sub-contractor to Rakon.• A surface mount Quartz Crystal.• Final assembly, ASIC programming and final test of the finished product is performed by Rakon UK’s facility in Lincoln, United Kingdom and Rakon NZ’s facility in Auckland, New Zealand.		
PROPOSED CHANGE: To change the location of the final assembly (e.g. crystal attach), ASIC programming and final test of the finished products to Rakon’s facility in Auckland, New Zealand only.		
REASON FOR CHANGE: Consolidating manufacturing of these products.		
EXPECTED EFFECT ON PERFORMANCE: None. The bill of material (BOM), process routing and final inspection will all remain unchanged. The sub-assembly contractor and quartz crystal suppliers are unchanged. Rakon operates an integrated manufacturing management system using “SAP” software. Both the Lincoln and Auckland sites have access to this central database. Therefore this change does not require the generation of additional information or the duplication of existing data to facilitate the transfer. Auckland is able to directly access the same data as that currently used by Lincoln to manufacture these products, eliminating the possibility of errors in the data. The Auckland site has been manufacturing ASIC based TCXOs since 1999 and commenced the manufacture of TCXOs and TCVCXOs incorporating the custom “Pluto” in 2010.		



IQD Frequency Products
Incorporating IQD FOQ GmbH



Prior to the start up in 2010, following actions were completed –

- 1) Parts manufactured in Auckland were the subject of a measurement correlation exercise, with the Auckland manufactured parts being measured in both Auckland and Lincoln.
- 2) Parts manufactured in Auckland were subject to a series of environmental and reliability tests. No failures occurred. The test report detailing the results of this testing were issued as Rakon UK test report #2010-006.

Since the start of manufacturing in Auckland, parts made at that site have:

- 3) Been subjected to reliability testing as part of the on-going Oscillator Reliability Test (ORT) program. No issues have been identified. The most recent data has been published as Rakon UK test report #2013-032 (testing completed in Q1, 2013).

EXPECTED EFFECT ON RELIABILITY:

None. The build standards for these products will not be changed.

COMMENTS:

If there are any questions relating to this change please do not hesitate to contact your IQD Account Manager or a member of our Internal Sales Team.

IMPLEMENTATION DATE:

1st April 2014

AUTHORIZED BY:

Tim Elwin
(Quality Manager)

0079



List of Part Numbers and Models

IQD Part #	Frequency (MHz)	Model	Part Description	E Code
LFPTXO000001	10.0	CFPT-9006	HCMOS ±1ppm -40 to 85C 3.3V	E2842LFT
LFPTXO000004	16.3840	CFPT-9006	E2834LF	E2834LFT
LFPTXO000009	40.0	CFPT-9006	HCMOS ±1ppm -40 to 85C 3.3V	E2841LFT
LFPTXO000014	20.0	CFPT-9006	HCMOS ±0.5ppm 0 to 50C 3.3V	E2888LFT
LFPTXO000020	10.0	CFPT-9006	HCMOS ±0.5ppm -40 to 85C 3.3V	E2931LFT
LFPTXO000028	32.7680	CFPT-9006	E2976LF	E2976LFT
LFPTXO000041	20.0	CFPT-9001	E3124LF	E3124LFT
LFPTXO000046	16.3840	E2981LF	HCMOS ±1ppm 0 to 70C 5V	E2981LFT
LFPTXO000052	10.0	CFPT-9006	E2923LF	E2923LFT
LFPTXO000068	20.0	E3179LF	E3179LF	E3179LFT
LFPTXO000081	16.3840	CFPT-9006	HCMOS ±0.3ppm -20 to 70C 3.3V	E2850LFT
LFPTXO000083	10.0	CFPT-9006	HCMOS ±1ppm -40 to 85C 3.3V	E3227LFT
LFPTXO000084	19.20	CFPT-9006	E2836LF	E2836LFT
LFPTXO000086	64.0	CFPT-9055	E3194LF	E3194LFT
LFPTXO000087	20.0	E3199LF	E3199LF	E3199LFT
LFPTXO000109	20.0	CFPT-9006	E3349LF	E3349LFT
LFPTXO000113	10.0	E3287LF	E3287LF	E3287LFT
LFPTXO000132	40.0	CFPT-9006	E3407LF	E3407LFT
LFPTXO000135	20.0	CFPT-9006	HCMOS ±2.5ppm -40 to 85C 3.3V	E3308LFT
LFPTXO000139	24.0	CFPT-9006	E3465LF	E3465LFT
LFPTXO000140	10.0	CFPT-9006	HCMOS ±2ppm -40 to 85C 3.3V	E3466LFT
LFPTXO000151	20.0	CFPT-9006	HCMOS ±0.3ppm -40 to 85C 3.3V	E3399LFT
LFPTXO000155	20.0	CFPT-9001	E3497LF	E3497LFT
LFPTXO000167	18.1440	E4183LF	HCMOS ±2ppm -25 to 85C 3V	E4183LFT
LFPTXO000176	16.3840	CFPT-9006	E2834LF	E2834LFT
LFPTXO000177	20.0	CFPT-9006	HCMOS ±1ppm -40 to 85C 3.3V	E2796LFT
LFPTXO000195	10.0	CFPT-9301	HCMOS ±0.3ppm -40 to 85C 3.3V	E4280LFT
LFPTXO000230	16.0	CFPT-9301	HCMOS ±1ppm -40 to 85C 3.3V	E4382LFT
LFPTXO000240	20.0	E3179LF	E3179LF	E3179LFT
LFPTXO000244	20.0	CFPT-9301	HCMOS ±1ppm -40 to 85C 3.3V	E4458LFT
LFPTXO000246	20.0	CFPT-9006	E2801LF	E2801LFT
LFPTXO000250	10.0	CFPT-9007	Sine ±0.3ppm -40 to 85C 3.3V	E4465LFT
LFPTXO000257	25.0	CFPT-9006	HCMOS ±0.3ppm -40 to 85C 3.3V	E4462LFT
LFPTXO000258	12.80	E2747LF	E2747LF	E2747LFT
LFPTXO000261	18.4320	CFPT-9006	E4499LF	E4499LFT
LFPTXO000262	16.0	CFPT-9301	E4382LF	E4382LFT
LFPTXO000268	16.3840	CFPT-9301	HCMOS ±1ppm -40 to 85C 3.3V	E4482LFT
LFPTXO000274	20.0	CFPT-9006	E4532LF	E4532LFT
LFPTXO000275	13.0	CFPT-9301	E4532LF	E4290LFT
LFPTXO000276	10.0	CFPT-9007	SINE ±0.5ppm -40 to 85C 3.3V	E4240LFT
LFPTXO000284	38.880	CFPT-9301	E4564LF	E4564LFT
LFPTXO000295	10.0	CFPT-9301	HCMOS ±1.0ppm -40 to 85C 3.3V	E4479LFT
LFPTXO000316	50.0	CFPT-9301	HCMOS ±1ppm -40 to 85C 3.3V	E4492LFT
LFPTXO000321	32.7680	CFPT-9006	E4670LF	E4670LFT
LFPTXO000398	13.0	CFPT-9301	E4687LF	E4687LFT
LFPTXO000400	19.20	CFPT-9301	E4701LF	E4701LFT
LFPTXO000403	19.20	CFPT-9301	E4246LF	E4246LFT



IQD Part #	Frequency (MHz)	Model	Part Description	E Code
LFPTXO000406	40.0	CFPT-9006	E4728LF	E4728LFT
LFPTXO000433	20.0	CFPT-9302	E4833LF	E4833LFT
LFPTXO000439	38.880	CFPT-9301	E4564LF	E4564LFT
LFPTXO000449	26.0	CFPT-9006	E4923LF	E4923LFT
LFPTXO000452	10.0	CFPT-9005	E4537LF	E4537LFT
LFPTXO000457	16.0	CFPT-9006	HCMOS $\pm 0.3\text{ppm}$ 0 to 50C 3.3V	E4952LFT
LFPTXO000467	10.0	E4234LF	E4234LF	E4234LFT
LFPTXO000479	51.840	CFPT-9301	E5080LF	E5080LFT
LFPTXO000481	36.0	E3451LF	E3451LF	E3451LFT
LFPTXO000485	10.0	CFPT-9001	E5151LF	E5151LFT
LFPTXO000486	10.0	CFPT-9006	HCMOS $\pm 0.5\text{ppm}$ 0 to 70C 3.3V	E5159LFT
LFPTXO000508	3.20	CFPT-9001	E4663LF	E4663LFT
LFPTXO000509	40.0	CFPT-9006	E4728LF	E4728LFT
LFPTXO000512	16.3840	CFPT-9006	E5359LF	E5359LFT
LFPTXO000533	13.0	CFPT-9301	HCMOS $\pm 1\text{ppm}$ -40 to 85C 3.3V T	E4675LFT
LFPTXO000534	49.1520	CFPT-9301	E5150LF	E5150LFT
LFPTXO000535	12.2880	CFPT-9006	E5507LF	E5507LFT
LFPTXO051504	8.0	CFPT-9006	HCMOS $\pm 0.3\text{ppm}$ -40 to 85C 3.3V E	E5610LFT
LFPTXO051857	10.0	CFPT-9007	E5423LF	E5423LFT
LFPTXO052662	40.0	CFPT-9301	E4446LF	E4446LFT
LFPTXO053238	48.0	CFPT-9301	HCMOS $\pm 2\text{ppm}$ -40 to 85C 3.3V	E4581LFT
LFPTXO054510	25.0	CFPT-9301	HCMOS $\pm 1\text{ppm}$ -40 to 85C 3.3V	E4789LFT
LFPTXO055479	10.0	CFPT-9008	CLIPSINE $\pm 0.3\text{ppm}$ -40 to 85C 3.3V	E5395LFT
LFPTXO059001	20.0	CFPT-9301	HCMOS $\pm 0.3\text{ppm}$ -40 to 85C 3.3V	E5015LFT
LFPTXO059103	3.20	CFPT-9006	HCMOS $\pm 1\text{ppm}$ -40 to 85C 3.3V	E6179LFT
LFPTXO059759	20.0	CFPT-9302	CLIPSINE $\pm 0.5\text{ppm}$ -40 to 85C 3V	E5931LFT
LFPTXO061374	14.74560	CFPT-9007	SINE $\pm 0.5\text{ppm}$ -40 to 85C 3.3V	E6310LFT
LFPTXO062004	9.83040	CFPT-9006	HCMOS $\pm 0.3\text{ppm}$ -20 to 70C 3.3V E	E6365LFT
LFPTXO062198	50.0	CFPT-9301	HCMOS $\pm 0.5\text{ppm}$ -40 to 85C 3.3V E	E5485LFT
LFPTXP000036	9.60	E2918LF	E2918LF	E2918LFT
LFTCXO007003	12.80	E3198LF	E3198LF	E3198LFT