

BFX-AT100 Control Run

New SW and Motorcomm 2nd source



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New FW & 2nd Source Control Run Report

Software

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Process

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ECN

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Material

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Other

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1. Control run Content:

- Do 72pcs control run new factory SW: **k000b-523r07b_SD_fac-20220316-BFX-AT100**, customer sw: **QTT5.200429.010.15.532.21**
based on old factory SW k000b-523r07_SD_fac-20220302, old customer sw: QTT5.200429.010.15.532.20-20211123
and Motorcomm 2nd source. Information as table:

No.#	Main source	2 nd source	Location	Function	Describe Material	Vendor 2 nd source
1	002.02152.005	JSYT8531C	U801	Control PHY Ethernet	IC PER 1.8/2.5/3.3V SMD QFN40 GP ETHERNET TRANSCEIVER YT8531C	Motorcomm
2	202.01372.005	202.00053.015	C801, C802	PHY_X-TAL In/Out	C802 - CAP CER 15pF 5% 50V SMD 0402 GP/HF NPO T=0.5mm HI-Q	MURATA
3	251.00694.005	251.00681.025	R802	PHY_XTAL_Out	RES C SMD 0402 0ohm JUMPER GP/HF 1/16W	YAGEO

No.#	Item	Old version	New version
1	Factory SW	k000b-523r07_SD_fac-20220302	k000b-523r07b_SD_fac-20220316-BFX-AT100
2	Customer SW	QTT5.200429.010.15.532.20-20211123	QTT5.200429.010.15.532.21

2. Purpose of control run :

- Due to main source shortage, need build control run to check function of Motorcomm 2nd source material location U801 and New SW (Factory & Customer).

New FW & 2nd Source Procedure and Result

Step	Items	CTQ	Contents	Q'ty	Result
1	SMT→ PTH	Yes	SPI/AOI/X-RAY	72	Pass
2	UK => FT => FT1 => Burnin 8hours (5%) => FT3 (5%) => RC => Burnin 6mins => RC1	Yes	1. Focus on new material location and new Factory + Customer SW. - U801 with P/N: JSYT8531C, - C801+C802 with P/N: 202.00053.015, - R802 with P/N: 251.00681.025 - New Factory SW: k000b-523r07_SD_fac-20220302 - New Customer SW: QTT5.200429.010.15.532.21 2. Checked HW/ CPK data of Main source and 2 nd source	72	Pass
3	Power on/off	Yes	100% power on /off 30times (on : 3 mins/ off : 30 seconds) Check Product Boot up Normally or not	72	Pass
4	RC2	Yes	Normal process	72	Pass
5	OBA (100%)	Yes	Check function of products	72	Pass
6	ORT	Yes	ORT*10% To verify the stability and reliability of product no have issue.	7	Pass
7	OBA after ORT	Yes	Re-test full OBA function to make sure all function of Product after ORT no have issue	7	Pass
8	VI => Packing => FG	None	Normal process.	72	Pass

Final Test Yield Rate

OTT		Model Name: T99X171.00 / BFX-AT100			
		Quantity:		72pcs	
		Version		0cL5C	
		Production image		k000b-523r07b_SD_fac-20220316-BFX-AT100	
		Customer image		QTT5.200429.010.15.532.21	
		MO		2643001053	
		Date		2022/03/20	
1.Product Yield & FA Report					
Customer	Product Model	Test Station	Yield Rate	Statistical	Yield Rate
OTT	T99X171.00	UK	100.00%	Total	72
				Pass	72
				Fail	0
				Yield Rate(%)	100%
		FT	100.00%	Total	72
				Pass	72
				Fail	0
				Yield Rate(%)	100%
		FT1	100.00%	Total	72
				Pass	72
				Fail	0
				Yield Rate(%)	100.00%
		RC	100.00%	Total	72
				Pass	72
				Fail	0
				Yield Rate(%)	100%
		RC1	100.00%	Total	72
				Pass	72
				Fail	0
				Yield Rate(%)	100%
		RC2	100.00%	Total	72
				Pass	72
				Fail	0
				Yield Rate(%)	100%
		Final Yield Rate(%)		100.00%	

Summary: Final test yield rate 100% → Didn't find any product fail

Check Power Supply

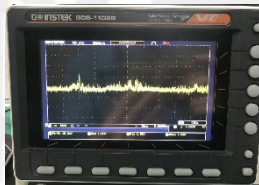
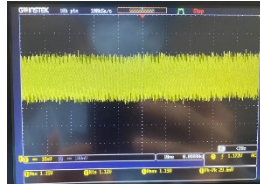
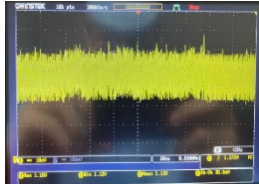
Power supply and compare between Main Source and 2nd Source

No. #	Location	Power Supply	Main Source board voltage	2nd Source board voltage	Compare Result
1	R328	PP_PWR_IN	5.02V	5.04V	OK
2	L303	P1V2	1.19V	1.19V	OK
3	R325	P2V5	2.47V	2.49V	OK
4	L304	P3V3	3.26V	3.27V	OK
5	C322	eMMC_VDDQ	1.79V	1.79V	OK
6	L301	VDDCPU	0.73V	0.73V	OK
7	L302	VDD_EE	0.84V	0.84V	OK
8	L801	ETH_DVDD10	0.98V	1.05V	OK
9	R806	ETH_VCC33	3.26V	3.2V	OK
10	R805	ETH_VDDIO	1.79V	1.79V	OK
11	R804	ETH_AVDD10	0.98V	1.05V	OK

Summary: Didn't find out any abnormal about power supply

Measure Voltage Ripple

Voltage Ripple Measurement

Voltage Ripple	Criteria (mV)	Main Source		2nd Source	
		Ripple Measurement (mV)	Picture	Ripple Measurement (mV)	Picture
ETH_VCC33 ~ 3.3V	< 165	40		40	
ETH_VDDIO ~1.8V	< 90	18.8		19.2	
ETH_AVDD10 ~1V	< 50	29.6		36.8	

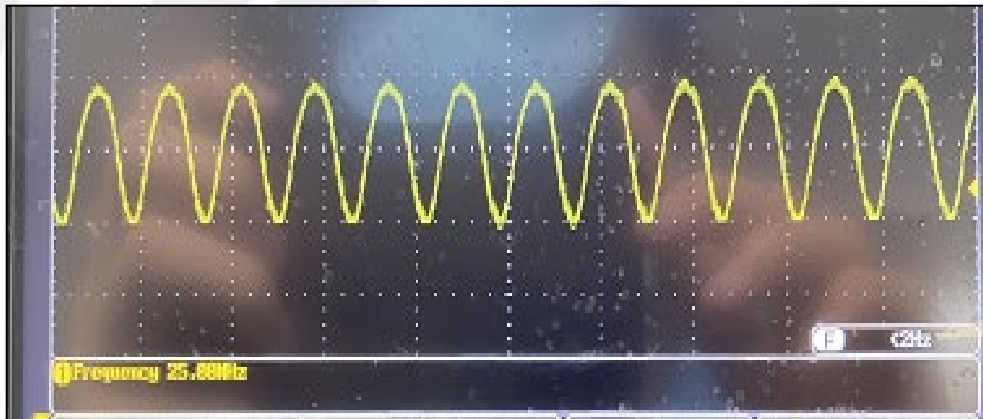
Summary : Measure Voltage Ripple → Didn't find out any abnormal

Measure ETH Crystal

Crystal signal at Y801 location

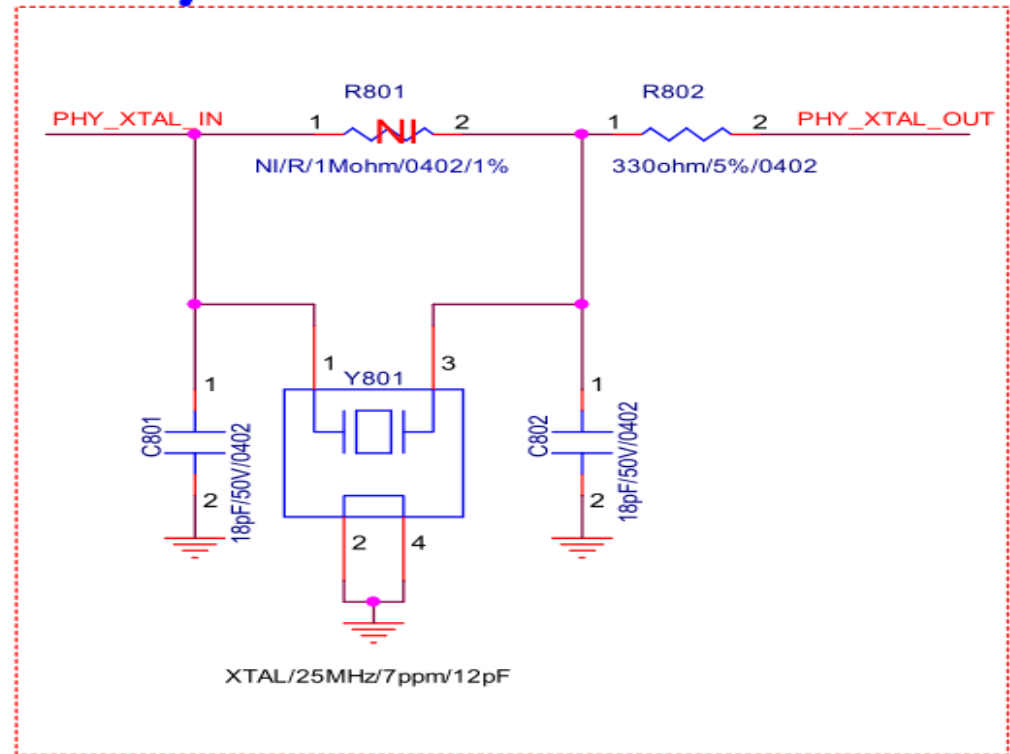


Main Source value = 25Mhz, Meet spec



2nd Source value = 25Mhz, Meet spec

Crystal

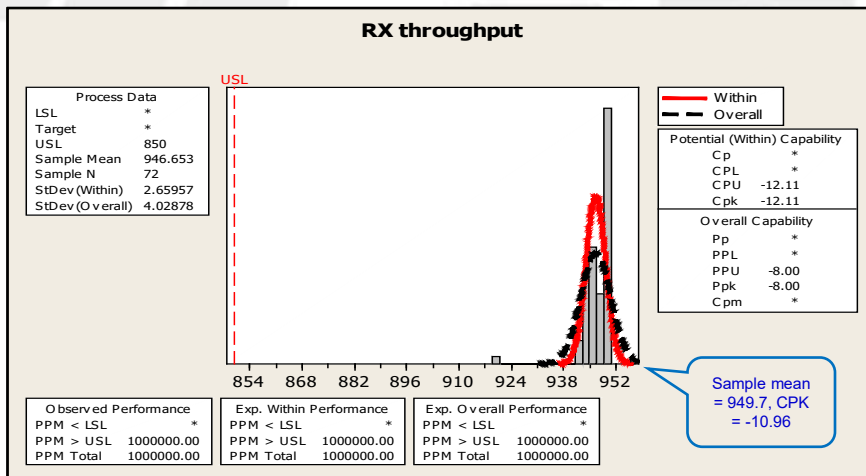
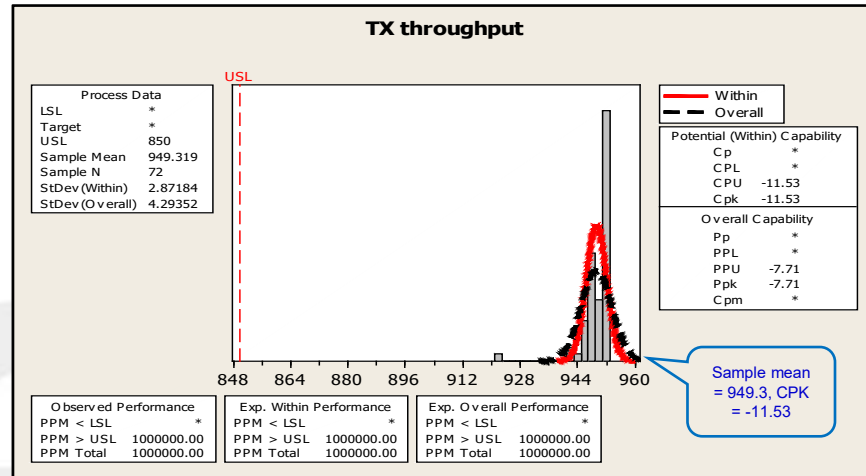


Crystal PCB Schematic

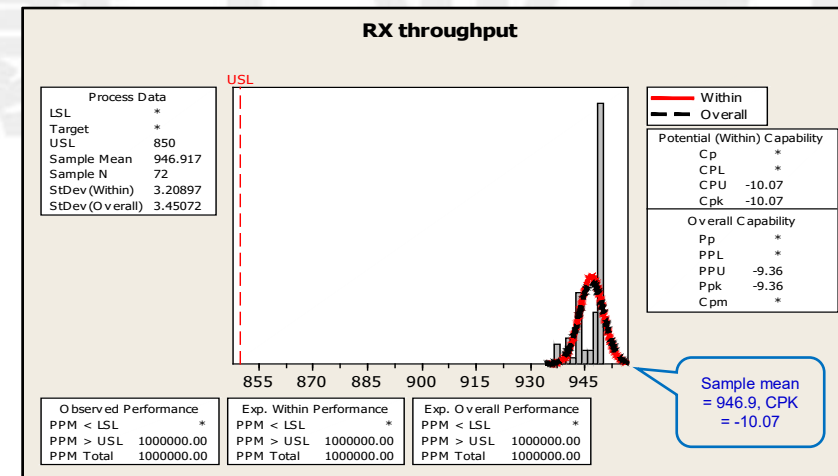
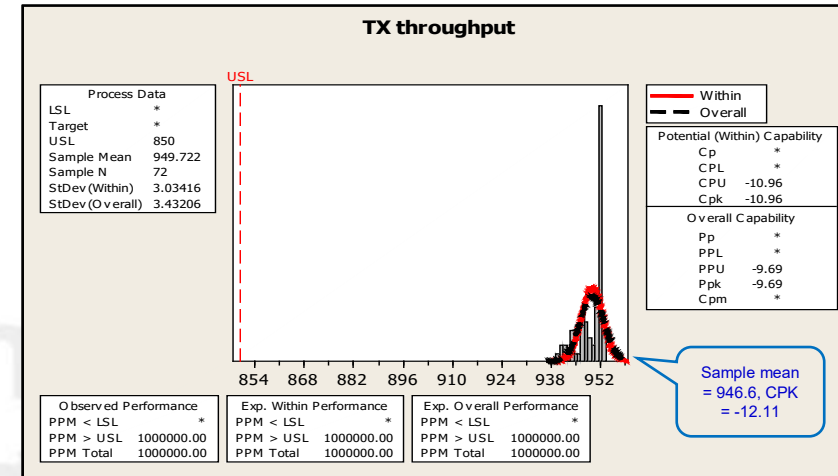
Summary: Crystal signal at Y801 location is 25Mhz frequency, Meet spec

Check ETHERNET CPK Data

Main Source and Old SW



2nd Source and new SW



Summary: The CPK data between Main Source and 2nd Source are not difference and value

Control Run Result Summary:

1. FATP test yield rate is 100%. No found any product fail relate to New SW and Motorcomm 2nd source.
2. 100% OBA. No found out any abnormality.
3. HW/CPK checking : No found out abnormality
4. 100% Power On/Off. No found out any abnormality

- Base on FATP/CPK/HW/OBA/ test result FII didn't find out any abnormality about new factory

SW: [k000b-523r07b_SD_fac-20220316-BFX-AT100](#), customer sw: [QTT5.200429.010.15.532.21](#)

and Motorcomm 2nd source in 72pcs

- FII Will send 72pcs to customer and RD test BMT, CRC , Owner : PM QuocAn
- FII keep monitoring in next big quantity production to ensure that none any defective board escaped to customer site. , Owner : MFG/RD