



Qualcomm Technologies, Inc.

QCC730 iPA Hostless Design Sample

Reference Schematic

80-WL730-43 Rev. AE

May 21, 2025

Revision history

Revision	Date	Description
AA	March 2024	Initial release
AB	June 2024	Added a note about SMPS power inductor and capacitor in Page 9 <i>Fermion Power</i>
AC	July 2024	▪ Updated Section 1.1 <i>Schematic</i> ▪ Updated Chapter 2 <i>Parts list</i>
AD	April 2025	Updated for public release. No technical content was changed in this revision.
AE	May 2025	Updated the legal statements in Section 1.1 <i>Schematic</i> . No technical content was changed in this revision.

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1 Introduction

This document includes a parts list and schematic for the reference board. The connectivity chip applicable to this reference schematic is QCC730.

1.1 Schematic

The schematic included in this document is preliminary and subject to change without notice. The schematic in the following pages is for reference only and is not optimized to production products due to its conservative design approach and Qualcomm Technologies, Inc. internal test requirements.

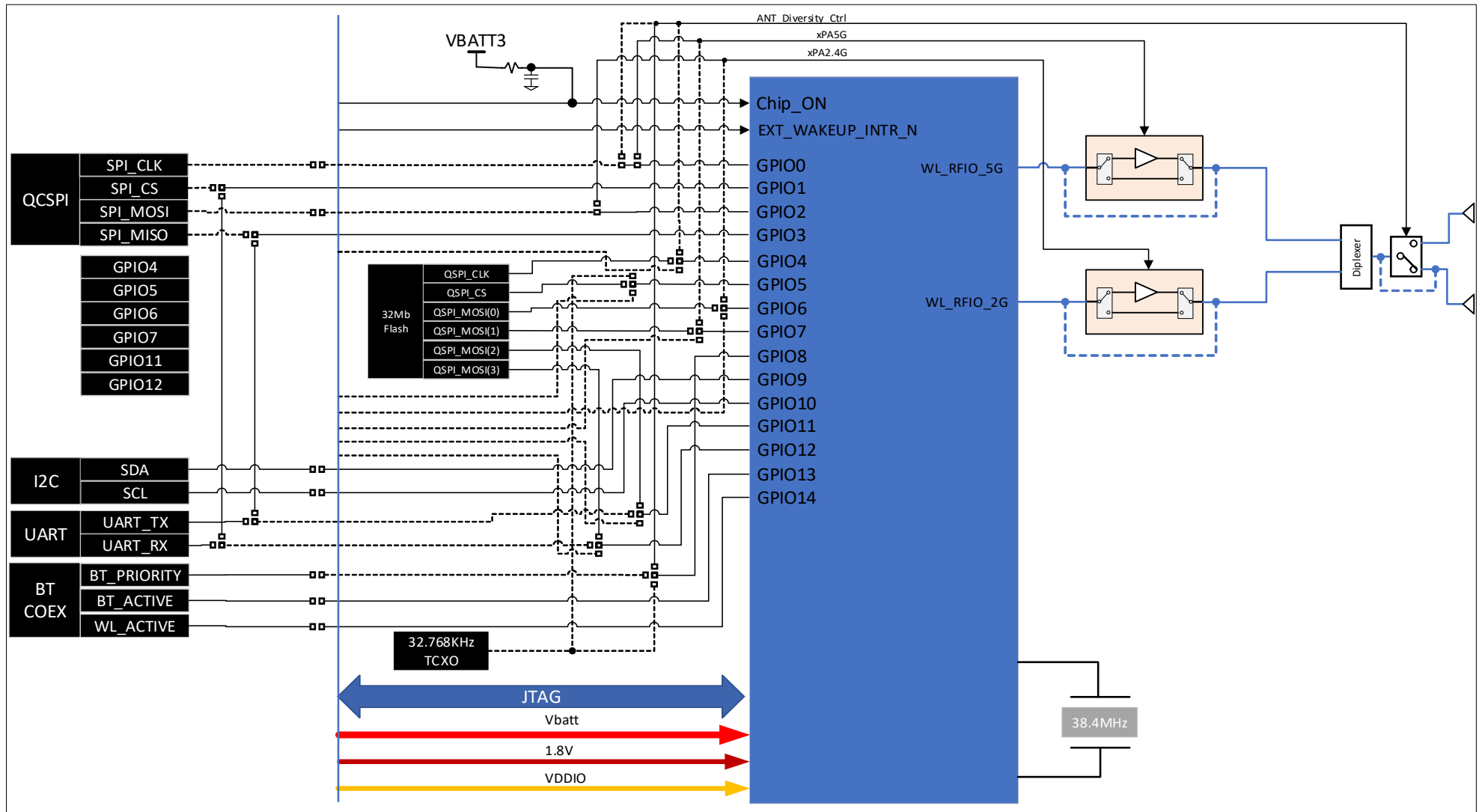
DATE	REVISION NUMBER	INITIALS	DESCRIPTION
March 2024	Rev. AA		Initial Release
June 2024	Rev. AB		Adding note for SMPS power inductor and capacitor
July 2024	Rev. AC		1) Add 0.8pF to C57 and C58 2) Change C13 to 2200pF
April 2025	Rev. AD		Updated for public release. No technical content was changed in this revision.
May 2025	Rev. AE		Updated the legal statements. No technical content was changed in this revision.

QCC730 iPA Hostless Design Sample Reference Schematic

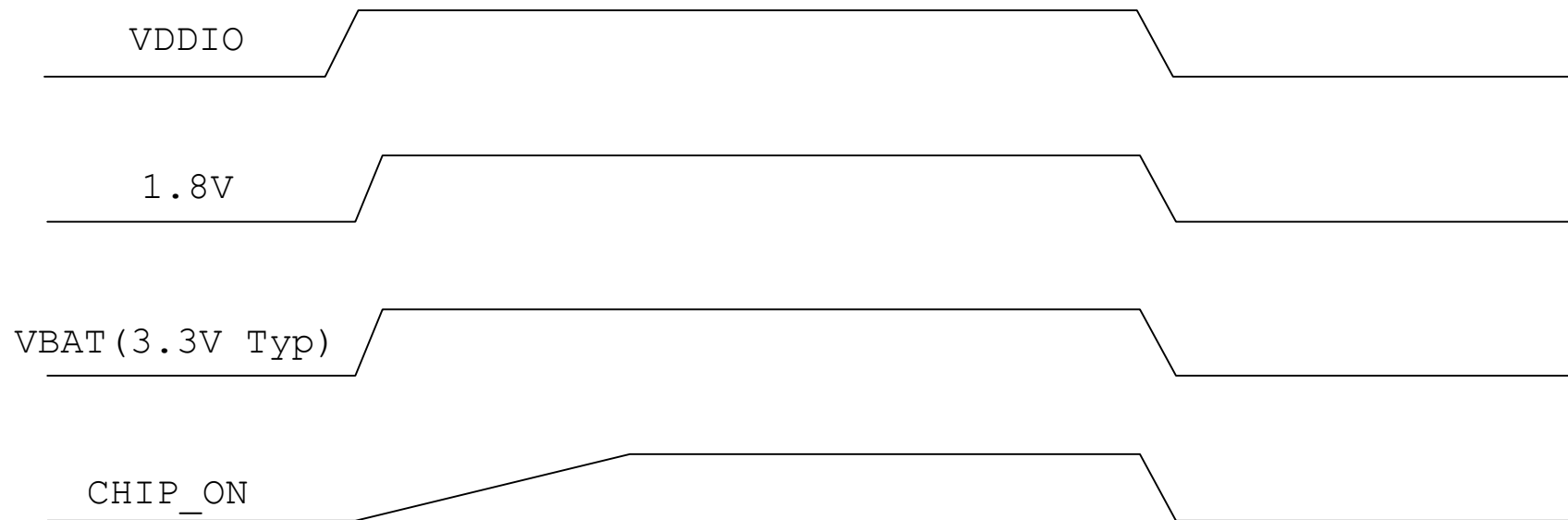
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CONTRACT NO.		QUALCOMM TECHNOLOGIES, INC.	
DRAWN BY Ming Chen		5775 MOREHOUSE DRIVE SAN DIEGO, 92121 U.S.A	
DATE 2024/03/04		TITLE QCC730 iPA Hostless Design Sample Reference Schematic	
ENGINEER			
PROJECT ENGINEER			
QUALITY ASSURANCE			
CONFIGURATION			
DESIGN ACTIVITY APPROVAL		SIZE D	DRAWING NO 80-WL730-43
DESIGN APPROVAL		SCALE NONE	REVISION DATE SHEET 1 OF 7

Block Diagram



TITLE QCC730 1PA Hostless Design Sample Reference Schematic			
QUALCOMM TECHNOLOGIES, INC. 5755 MOREHOUSE DRIVE SAN DIEGO, CA 92122 U.S.A.	SIZE	DRAWING NO.	REV
	D	80-WL730-43	AL
SCALE NONE			SHEET 2 OF 7

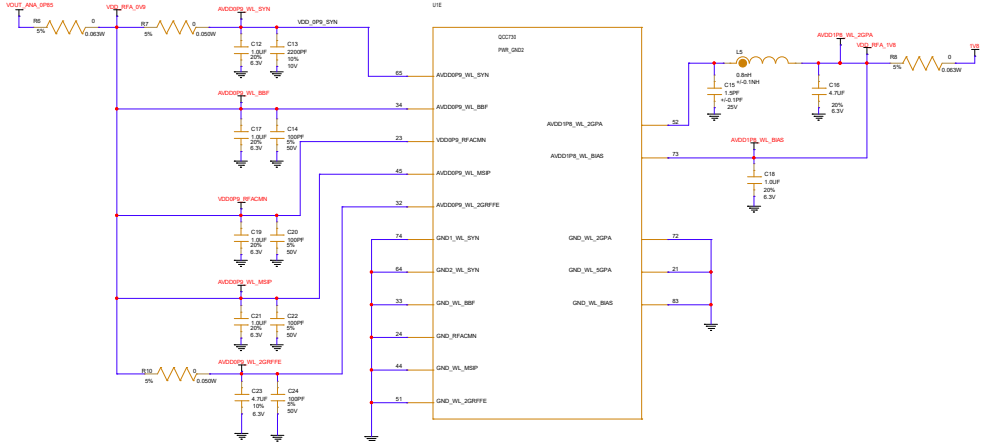


CHIP_ON is generated by RC delay(155ms) based on VBAT.

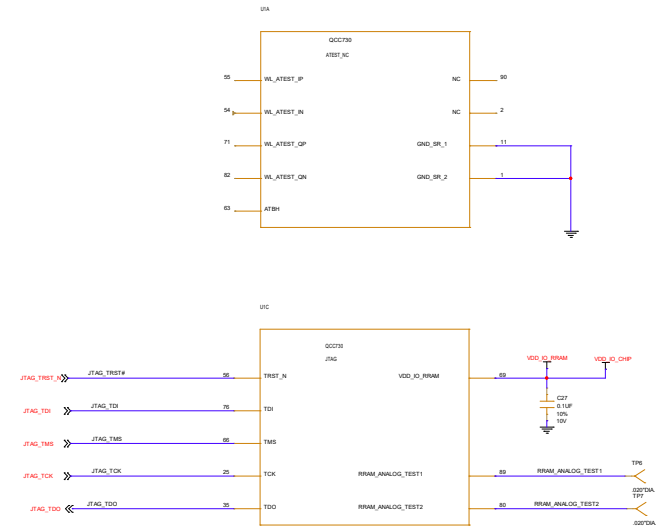
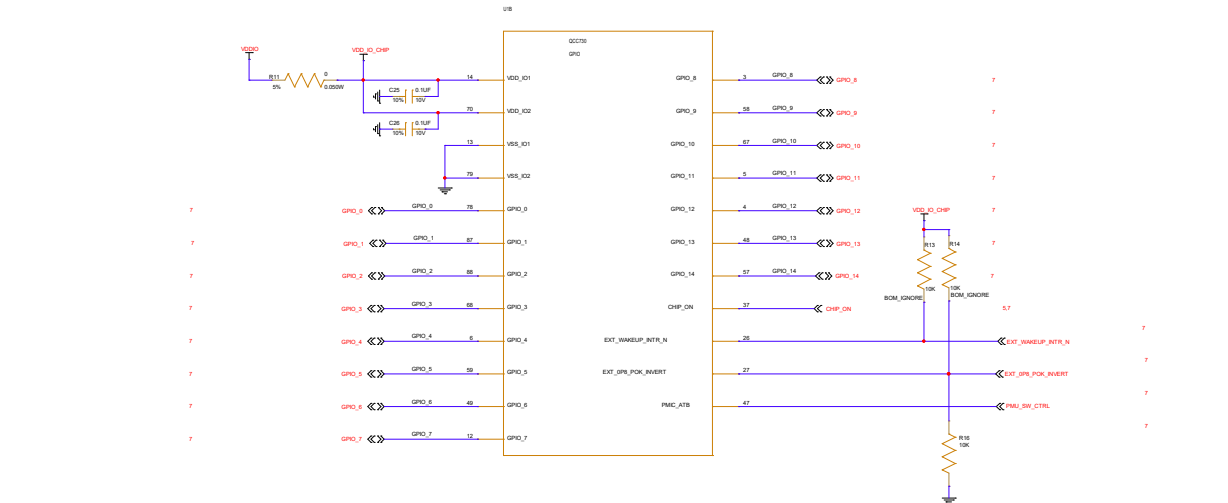
QUALCOMM TECHNOLOGIES, INC. 5750 LAKE AVENUE SAN DIEGO, CA 92122 U.S.A				TITLE QCT30 iPa Rootless Design Sample Reference Schematic	
SIZE D	DRAWING NO 80-WL730-43		REV AC		
SCALE NONE			SHEET 3	OF 7	

Fermion Power ₁₁₃

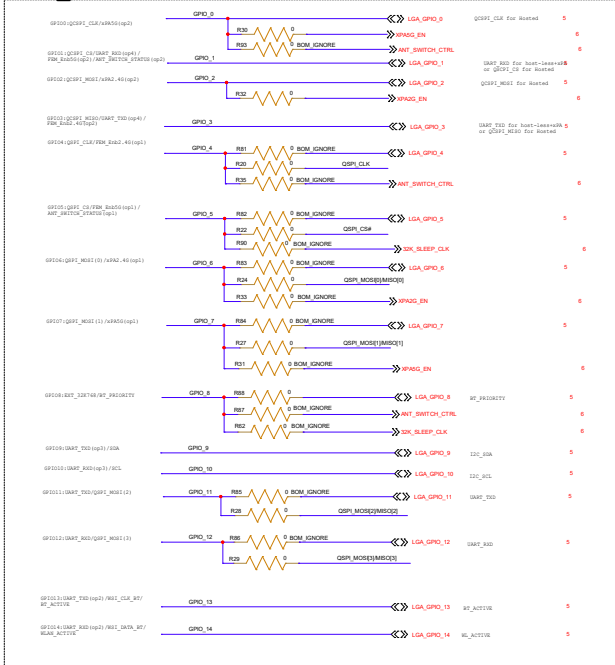
PERMITS AND POWER



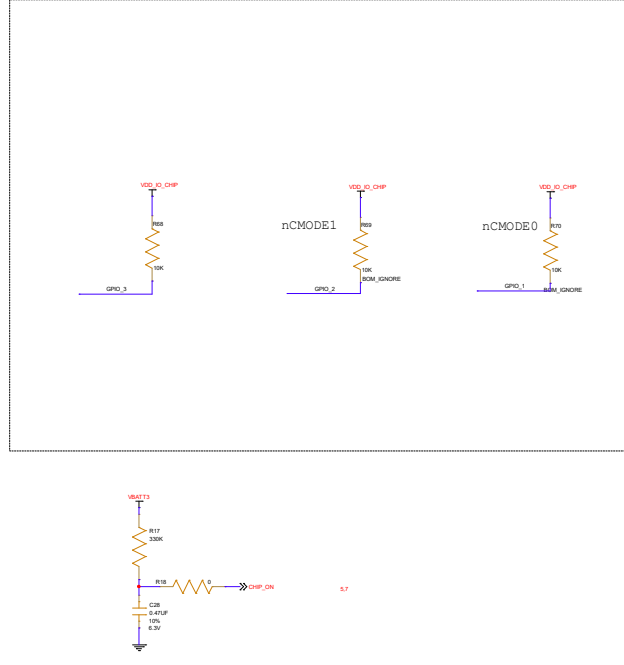
QUALCOMM TECHNOLOGIES, INC. 5775 MOREHOUSE DRIVE SAN DIEGO, CA 92122 U.S.A.	TITLE QCC730 1PA Hostless Design Sample Reference Schematic		
	SIZE D	DRAWING NO 80-WL730-43	REV A/E
	SCALE NONE		SHEET 4 OF 7



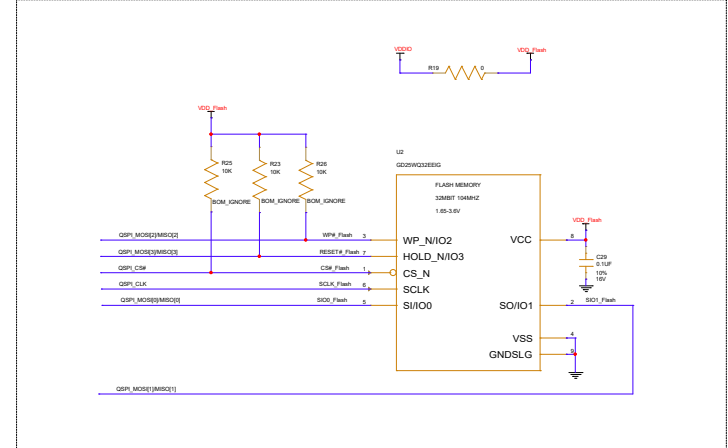
GPIO_MUX

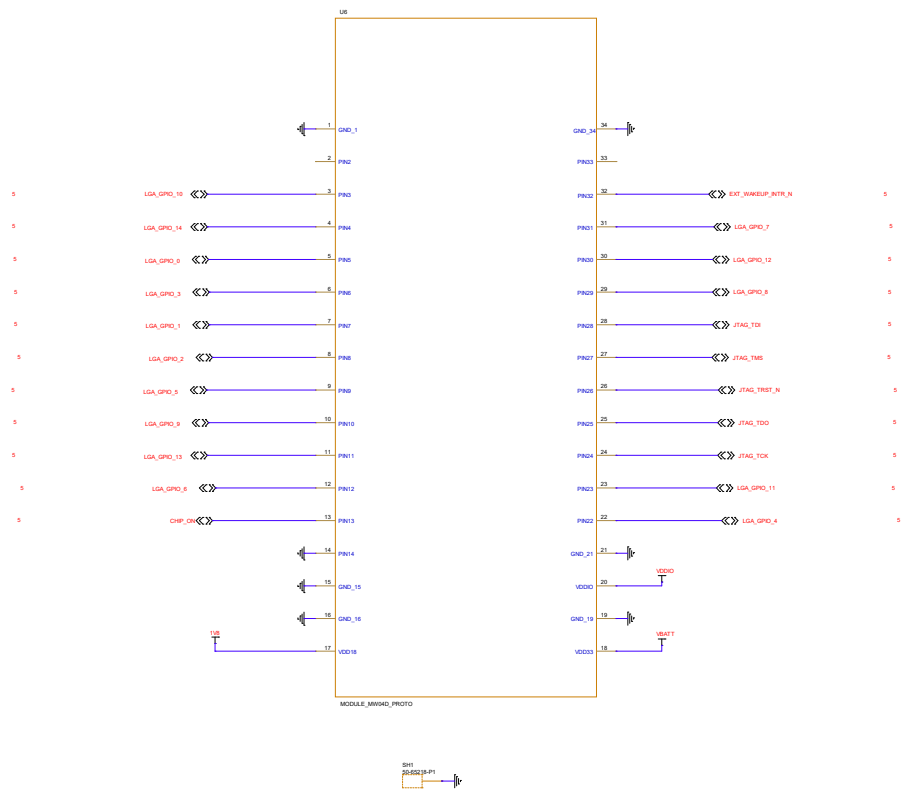


Mandatory Bootstrap



SPI Flash





TITLE			
QCT30 iPA Hostless Design Sample Reference Schematic			
SIZE	DRAWING NO.	REV.	
D	80-WL730-43	AC	
SCALE		SHEET	
NONE		7 OF 7	

QUALCOMM TECHNOLOGIES, INC.
5755 MOREHOUSE DRIVE
SAN DIEGO, CA 92122
U.S.A.

2 Parts list

The parts list included in this document is preliminary and is subject to change without notice. The parts list in the following pages is for reference only and is not optimized for production due to its conservative design approach and Qualcomm Technologies, Inc. internal test requirements.

Table 2-1 Parts list

Reference designator	Qty	MPN	Manufacturer	Description
R17	1	ERJ1GEJ334C ERJ1GNJ334C PFR03S-334-JNH-39 RC0201JR-07330KL WR02X334JAL	PANASONIC INDUSTRIAL CO PANASONIC INDUSTRIAL CO CYNTEC CO. LTD. YAGEO CORPORATION WALSIN TECHNOLOGY CORP	RES 330K 200PPM 5% 0.050W 0201 ROHS
R1, R3, R5, R7, R10-R11, R22, R24, R32, R36-R37, R45, R52-R53, R88, R91-R92, R18-R20, R27-R30, R48-R50	27	CRCW02010000Z0ED ERJ1GE0R00C ERJ1GN0R00C MCR006YLPJ000 MCR006YZPJ000 PFR03S-000-XNH-39 RC0201JR-070RL RK73Z1HTTB RK73Z1HTTC RM02JTN0 RMCF0201ZT0R00 RR0306S-000-XNH-39 RTT010000JTH WR02X000 PAL WR02X000JAL WR02X000PAL	VISHAY INTERTECHNOLOGY INC PANASONIC INDUSTRIAL CO PANASONIC INDUSTRIAL CO ROHM ELECTRONICS ROHM ELECTRONICS CYNTEC CO. LTD. YAGEO CORPORATION KOA SPEER ELECTRONICS INC KOA SPEER ELECTRONICS INC TA-I TECHNOLOGY CO LTD STACKPOLE COMPONENTS CO CYNTEC CO. LTD. RALEC WALSIN TECHNOLOGY CORP WALSIN TECHNOLOGY CORP WALSIN TECHNOLOGY CORP	RES 0 JUMPER 0.050W 0201 0.05OHM (MS) ROHS
R16, R68	2	CR0201-JW-103GLF CRCW020110K0JNED ERJ1GNJ103C RC0201JR-0710KL RK73B1HTTB103J RK73B1HTTC103J RR0306S-103-JNH-39 WR02X103 JAL WR02X103JAL	BOURNS INC VISHAY INTERTECHNOLOGY INC PANASONIC INDUSTRIAL CO YAGEO CORPORATION KOA SPEER ELECTRONICS INC KOA SPEER ELECTRONICS INC CYNTEC CO. LTD. WALSIN TECHNOLOGY CORP WALSIN TECHNOLOGY CORP	RES 10K 200PPM 5% 0.050W 0201 ROHS

Reference designator	Qty	MPN	Manufacturer	Description
R89	1	CRCW0201100KJNED ERJ1GEJ104C ERJ1GNJ104C MCR006YZPJ104 RC0201JR-07100KL RK73B1HTTB104J RK73B1HTTC104J RM02JTN104 RR0306S-104-JNH-39 WR02X104JAL	VISHAY INTERTECHNOLOGY INC PANASONIC INDUSTRIAL CO PANASONIC INDUSTRIAL CO ROHM ELECTRONICS YAGEO CORPORATION KOA SPEER ELECTRONICS INC KOA SPEER ELECTRONICS INC TA-I TECHNOLOGY CO LTD CYNTEC CO. LTD. WALSIN TECHNOLOGY CORP	RES 100K 200PPM 5% 0.050W 0201 ROHS
R2, R6, R8, R51	4	CRCW04020000Z0ED ERJ2GE0R00X MCR01MZPJ000 PFR05X-000-XNH-39 RC0402JR-070RL RK73Z1ETTP RMCF0402ZT0R00 RR0510X-000-X-N RR0510X-000-X-NH RTT02000JTH WR04X000PTL	VISHAY INTERTECHNOLOGY INC PANASONIC INDUSTRIAL CO ROHM CO LTD(65940) CYNTEC CO. LTD. YAGEO CORPORATION KOA SPEER ELECTRONICS INC STACKPOLE COMPONENTS CO CYNTEC CO. LTD. CYNTEC CO. LTD. RALEC WALSIN TECHNOLOGY CORP	RES 0 200PPM 5% 0.063W 0402 ROHS
C14, C20, C22, C24, C38-C39	6	0201CG101J9B200 C0603C0G1H101J030BA CC0201JRNPO9BN101 CC0402JRNPO9BN101 CL03C101JB3ANNC GRM0335C1H101JA01D GRM0335C1H101JD01D MSASU063SCG101JFNA01 UMK063CG101JT-F	PHYCOMP TDK CORP OF AMERICA YAGEO CORPORATION YAGEO CORPORATION SAMSUNG ELECTRO-MECHANICS MURATA ERIE NORTH AMERICA INC MURATA ERIE NORTH AMERICA INC TAIYO YUDEN CO LTD TAIYO YUDEN CO LTD	CAP,CHIP CERAMIC 100PF 5% C0G/NP0 50V ROHS

Reference designator	Qty	MPN	Manufacturer	Description
C60	1	0201YC103KAT2A CC0201KRX7R7BB103 EMK063B7103KP EMK063B7103KP-F GRM033R71C103KE14D MSASE063SB7103KFNA01	KYOCERA AVX COMPONENTS CORP YAGEO CORPORATION TAIYO YUDEN CO LTD TAIYO YUDEN CO LTD MURATA ERIE NORTH AMERICA INC TAIYO YUDEN CO LTD	CAP,CHIP CERAMIC 0.01UF 10% X7R 16V ROHS
C29	1	0402YC104KAT2A C0402C104K4RAC7867 C0402C104K4RACTU CC0402KRX7R7BB104 EMK105B7104KV-F GRM155R71C104KA88D MSASE105SB7104KFNA01	KYOCERA AVX COMPONENTS CORP KEMET ELECTRONICS CORP KEMET ELECTRONICS CORP YAGEO CORPORATION TAIYO YUDEN CO LTD MURATA ERIE NORTH AMERICA INC TAIYO YUDEN CO LTD	CAP,CHIP CERAMIC 0.1UF 10% X7R 16V ROHS
C1-C2, C30, C46	4	C0402C225K9PAC7867 C1005X5R0J225K C1005X5R0J225K050BC C1005X5R0J225KT C1005X5R0J225KTJA0E CL05A225KQ5NNNC GRM155R60J225KE01D GRM155R60J225KE95D GRM155R60J225KE95J JMK105BJ225KV-F JMK105BJ225MV-F MSASJ105SB5225KFNA01	KEMET ELECTRONICS CORP TDK CORP OF AMERICA TDK CORP OF AMERICA TDK CORP OF AMERICA TDK CORP OF AMERICA SAMSUNG ELECTRO-MECHANICS MURATA ERIE NORTH AMERICA INC MURATA ERIE NORTH AMERICA INC MURATA ERIE NORTH AMERICA INC TAIYO YUDEN CO LTD TAIYO YUDEN CO LTD TAIYO YUDEN CO LTD	CAP,CHIP CERAMIC 2.2UF 10% X5R 6.3V ROHS

Reference designator	Qty	MPN	Manufacturer	Description
C5, C23	2	C1005X5R0J475K050BC C1005X5R0J475KB C1005X5R0J475KT C1005X5R0J475KTJ00F CL05A475KQ5NRNC GRM155R60J475KE96D	TDK CORP OF AMERICA TDK CORP OF AMERICA TDK CORP OF AMERICA TDK CORP OF AMERICA SAMSUNG ELECTRO-MECHANICS MURATA ERIE NORTH AMERICA INC	CAP,CHIP CERAMIC 4.7UF 10% X5R 6.3V ROHS
C3-C4, C6, C11, C25-C27	7	0201ZD104KAT2A CL03A104KP3NNNC ECJZEB1A104K GRM033R61A104KE15D GRM033R61A104KE84D LMK063BJ104KP-F MSASL063SB5104KFNA01	KYOCERA AVX COMPONENTS CORP SAMSUNG ELECTRO-MECHANICS PANASONIC INDUSTRIAL CO MURATA ERIE NORTH AMERICA INC MURATA ERIE NORTH AMERICA INC TAIYO YUDEN CO LTD TAIYO YUDEN CO LTD	CAP,CHIP CERAMIC 0.1UF 10% X5R 10V ROHS
C31-C32, C35, C47-C48, C51	6	02013D102KAT2A 0201X102K250CT C0603X5R1E102K030BA C0603X5R1E102KT C0603X5R1E102KT00NN CE TMK063BJ102KP-F GRM033R61E102KA01D MSAST063SB5102KFNA01 RM TMK063BJ102KP-F	KYOCERA AVX COMPONENTS CORP WALSIN TECHNOLOGY CORP TDK CORP OF AMERICA TDK CORP OF AMERICA TDK CORP OF AMERICA TAIYO YUDEN CO LTD MURATA ERIE NORTH AMERICA INC TAIYO YUDEN CO LTD TAIYO YUDEN CO LTD	CAP,CHIP CERAMIC 1000PF 10% X5R 25V ROHS

Reference designator	Qty	MPN	Manufacturer	Description
C8, C12, C21, C17-C19	6	02016D105MAT2A C0201X5R6R3-105MNP C0603X5R0J105M030BC C0603X5R0J105MT C0603X5R0J105MT00NE CC0201MRX5R5BB105 CL03A105MQ3CSNC CL03A105MQ3CSNC CL03A105MQ3CSNH CL03A105MQ3CSNH CM03X5R105M06AH-SSP GRM033R60J105MEA2 GRM033R60J105MEA2D GRM033R60J105MEA2J JMK063ABJ105MP-F MSASJ063AB5105MFNA01 RM JMK063ABJ105MP-F	KYOCERA AVX COMPONENTS CORP VENKEL CORP(0NX17) TDK CORP OF AMERICA TDK CORP OF AMERICA TDK CORP OF AMERICA YAGEO CORPORATION SAMSUNG ELECTRO-MECHANICS SAMSUNG AMERICA INC SAMSUNG ELECTRO-MECHANICS SAMSUNG AMERICA INC KYOCERA AVX COMPONENTS CORP MURATA ERIE NORTH AMERICA INC MURATA ERIE NORTH AMERICA INC MURATA ERIE NORTH AMERICA INC TAIYO YUDEN CO LTD TAIYO YUDEN CO LTD TAIYO YUDEN CO LTD	CAP,CHIP CERAMIC 1.0UF 20% X5R 6.3V ROHS
C9-C10	2	GRM155R61A106ME21D LDK105BBJ106MVBF RM LDK105BBJ106MVBF	MURATA ERIE NORTH AMERICA INC TAIYO YUDEN CO LTD TAIYO YUDEN CO LTD	CAP,CHIP CERAMIC 10UF 20% X5R 10V MAX HT=0.65MM ROHS
L1-L2	2	DFE21CCN2R2MELL	MURATA ERIE NORTH AMERICA INC	INDUCTOR,CHIP COIL 2.2UH 20% 0.138OHM 2.1A ROHS
	ALT	HTQH20120H-2R2MSR-39	CYNTEC CO. LTD.	INDUCTOR,POWER-CHOKE 2.2UH 20% 1.8A 0.091OHM ROHS
FL2	1	DP1608-R2461MFB/LF DP1608-R2461MFB/LF(ES) DP1608-R2461MFT/LF DP1608-R2461MFT/LF(ES)	ADVANCED CERAMIC X CORP ADVANCED CERAMIC X CORP ADVANCED CERAMIC X CORP ADVANCED CERAMIC X CORP	FILTER,DIPLEXER 2400-2500/5150- 6000/6000-7125MHZ IL=0.5/0.9/1.4DB WLAN ROHS
Y2	1	XTL901-Q23-065	SIWARD INTERNATIONAL INC	CRYSTAL,QUARTZ 38.4000MHZ 10PPM CL=6PF ROHS
U2	1	GD25WQ32EEEG GD25WQ32EEEGR GD25WQ32EEIG GD25WQ32EEIGR	GIGADEVICE SEMICONDUCTOR INC GIGADEVICE SEMICONDUCTOR INC GIGADEVICE SEMICONDUCTOR INC GIGADEVICE SEMICONDUCTOR INC	IC,MEMORY FLASH DUAL/QUAD 32MBIT SPI 104MHZ 1.65-3.6V ROHS

Reference designator	Qty	MPN	Manufacturer	Description
J1-J2	2	20579-001E	I-PEX USA	CONN,RF COAX MICRO RCPT VERT 12GHZ SMT 2X2X0.6MM AU ROHS
C7	1	02016D475MAT2S CL03A475MQ5C65C CM03X5R475M06A055 GRM035R60J475ME15 GRM035R60J475ME15D JDK063BBJ475MV-AT MEASJ065QB5475MA1A01 RM JDK063BBJ475MV-AT	KYOCERA AVX COMPONENTS CORP SAMSUNG ELECTRO-MECHANICS KYOCERA AVX COMPONENTS CORP MURATA ERIE NORTH AMERICA INC MURATA ERIE NORTH AMERICA INC TAIYO YUDEN CO LTD TAIYO YUDEN CO LTD TAIYO YUDEN CO LTD	CAP,CHIP CERAMIC 4.7UF 20% X5R 6.3V (MS) ROHS
R40	1	02013A100JAT2A 0201N100J250LT C0603C0G1E100DT00NN C0603C0G1E100JT C0603NP0100JFTS CC0201JRNPO8BN100 ECJZEC1E100J GRM0335C1E100JA01D GRM0335C1E100JD01D GRM0335C1E101JD01B GRM0335C1E101JD01D GRM0335C1E101JD01E GRM0335C1E101JD01F	KYOCERA AVX COMPONENTS CORP WALSIN TECHNOLOGY CORP TDK CORP OF AMERICA TDK CORP OF AMERICA DARFON ELECTRONICS CORP YAGEO CORPORATION PANASONIC INDUSTRIAL CO MURATA ERIE NORTH AMERICA INC MURATA ERIE NORTH AMERICA INC MURATA ERIE NORTH AMERICA INC MURATA ERIE NORTH AMERICA INC MURATA ERIE NORTH AMERICA INC MURATA ERIE NORTH AMERICA INC	CAP,CHIP CERAMIC 10PF 5% C0G/NP0 25V ROHS
C28	1	02016D474KAT2A C0603X5R0J474K030BC C0603X5R0J474KTJ0NE CL03A474KQ3NNNC GRM033R60J474KE90D JMK063BJ474KP JMK063BJ474KP-F MSASJ063SB5474KFNA01 RM JMK063 BJ473KP-F RM JMK063 BJ474KP-F	KYOCERA AVX COMPONENTS CORP TDK CORP OF AMERICA TDK CORP OF AMERICA SAMSUNG SEMI INC MURATA ERIE NORTH AMERICA INC TAIYO YUDEN CO LTD TAIYO YUDEN CO LTD TAIYO YUDEN CO LTD TAIYO YUDEN CO LTD TAIYO YUDEN CO LTD	CAP,CHIP CERAMIC 0.47UF 10% X5R 6.3V ROHS
R56	1	GJM0335C1E6R2WB01D	MURATA ERIE NORTH AMERICA INC	CAP,CHIP CERAMIC HIGH FREQ 6.2PF +/-0.05PF C0G/NP0 25V ROHS

Reference designator	Qty	MPN	Manufacturer	Description
C15	1	02013A1R5BAT2A 0201N1R5B250LT 250R05L1R5BV4S 250R05L1R5BV4T C0603C0G1E1R5BT00NN C0603COG1E1R5BT C0603NP0159BFTS GRM0335C1E1R5BA01D GRM0335C1E1R5BD01D	KYOCERA AVX COMPONENTS CORP WALSIN TECHNOLOGY CORP JOHANSON DIELECTRICS INC JOHANSON DIELECTRICS INC TDK CORP OF AMERICA TDK CORP OF AMERICA DARFON ELECTRONICS CORP MURATA ERIE NORTH AMERICA INC MURATA ERIE NORTH AMERICA INC	CAP,CHIP CERAMIC 1.5PF +/-0.1PF C0G/NP0 25V ROHS
C16	1	CL03A475MQ3CRNC GRM033R60J475ME05D GRM033R60J475ME05J GRM033R60J475ME05W	SAMSUNG ELECTRO-MECHANICS MURATA ERIE NORTH AMERICA INC MURATA ERIE NORTH AMERICA INC MURATA ERIE NORTH AMERICA INC	CAP,CHIP CERAMIC 4.7UF 20% X5R 6.3V ROHS
L5	1	LQP03TG0N8B02B LQP03TG0N8B02D	MURATA ERIE NORTH AMERICA INC MURATA ERIE NORTH AMERICA INC	INDUCTOR,CHIP 0.8NH +/-0.1NH Q=12@500MHZ SRF=18000 0.75A ROHS
C57-C58	2	02013A0R8BAT2A 0201N0R8B250LT 250R05L0R8BV4T C0603NP0808BFTS GRM0335C1ER80BA01D GRM0335C1ER80BZ01D	KYOCERA AVX COMPONENTS CORP WALSIN TECHNOLOGY CORP JOHANSON DIELECTRICS INC DARFON ELECTRONICS CORP MURATA ERIE NORTH AMERICA INC MURATA ERIE NORTH AMERICA INC	CAP,CHIP CERAMIC 0.8PF +/-0.1PF C0G/NP0 25V ROHS
C13	1	0201ZD222KAT2A GRM033R61A222KA01D	KYOCERA AVX COMPONENTS CORP MURATA ERIE NORTH AMERICA INC	CAP,CHIP CERAMIC 2200PF 10% X5R 10V ROHS
U1	1	QCC-730-1-WLPSP90-TR-03-0-02	Qualcomm	QCC730 (103-0-02), WLPSP90, WIFI 2.4/5G 802.11 ABGN FOR BATTERY OPERATED DEVICES. IPA & XPA SUPPORT (I-TEMP), OTP V6.0, FERMION (2.1), TSMC

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