

	Semi-manufactures name	XS2-MAIN-BOARD-V02C	Semi-manufactures Code	Semi-manufactures standard		
1	RA1061-0075	100nF/50V/K/X7R/1608	SMT C1,C2,C6,C34,C143,C163	CL10B104KB8NNNC,0603B104K500	MSUNG ELECTRO MECHANICS,WAL	6 CAP-MLCC:1608,100nF,50V,K,X7R,ROHS
2	RA1061-0074	100nF/50V/J/X7R/1608	SMT C3,C14	CL10B104JB8NNNC,0603B104J500	MSUNG ELECTRO MECHANICS,WAL	2 CAP-MLCC:1608,100nF,50V,J,X7R,ROHS
3	RA1061-0019	10nF/50V/K/X7R/1005	SMT C4,C24,C32,C202,C205,C431,C433	CL05B103KB,0402B103K500	MSUNG ELECTRO MECHANICS,WAL	7 CAP-MLCC:1005,10nF,50V,K,X7R,ROHS
4	RA1061-0017	100pF/50V/J/COG/1005	SMT C5,C135,C136,C215	CL05C101JB,0402N101J500	MSUNG ELECTRO MECHANICS,WAL	4 CAP-MLCC:1005,100pF,50V,J,COG,ROHS
5	RA1061-0300	10uF/50V/K/X5R/3216	SMT C7,C8,C166	CL31A106KBHNNNE,1206X106K500	MSUNG ELECTRO MECHANICS,WAL	3 CAP-MLCC:3216,10uF,50V,K,X5R,ROHS
6	RA1061-0249	47uF/16V/K/X5R/3225	SMT C9,C10,C11,C12,C13	GRM32ER61C476KE15L	MURATA	5 CAP-MLCC:3225,47uF,16V,K,X5R,ROHS
7	RA1061-0400	3.9pF/50V/C/COG/1608	SMT C15	0603N3R9C500CT	WALSIN	1 CAP-MLCC:1608,3.9pF,50V,C,COG,ROHS
8	RA1061-0031	1nF/50V/J/X7R/1005	SMT C16,C17,C41,C442,C443,C444	CL05B102JB5NNNC	SAMSUNG ELECTRO MECHANICS	6 CAP-MLCC:1005,1nF,50V,J,X7R,ROHS
9	RA1061-0085	10uF/10V/K/X5R/1608	SMT C18,C25,C42,C43,C47,C50,C52,C58,C61	CL10A106KB8NNNC,0603X106K100C	MSUNG ELECTRO MECHANICS,WAL	21 CAP-MLCC:1608,10uF,10V,K,X5R,ROHS
10	RA1061-0015	100nF/16V/K/X7R/1005	SMT C19,C20,C21,C22,C23,C26,C27,C28,C29	L05B104KO5NNNC,0402B104K160C	MSUNG ELECTRO MECHANICS,WAL	115 CAP-MLCC:1005,100nF,16V,K,X7R,ROHS
11	RA1061-0297	5.1nF/50V/J/X7R/1608	SMT C33	GRM1887U1H512JA01D	MURATA	1 CAP-MLCC:1608,5.1nF,50V,J,X7R,ROHS
12	RA1061-0370	22uF/25V/K/X7R/3225	SMT C35,C36,C37,C38,C39,C40	TMK325B7226KM-PR	TAIYO YUDEN	6 CAP-MLCC:3225,22uF,25V,K,X7R,ROHS
13	RA1061-0035	1uF/16V/K/X5R/1005	SMT C41,C44,C56,C57,C59,C60,C63,C64,C65	CL05A105KO5NNN	SAMSUNG ELECTRO MECHANICS	39 CAP-MLCC:1005,1uF,16V,K,X5R,ROHS
14	RA1061-0029	18pF/50V/J/COG/1005	SMT C45,C49,C87,C102,C147,C148,C149,C1	CL05C180JB5NNNC	SAMSUNG ELECTRO MECHANICS	10 CAP-MLCC:1005,18pF,50V,J,COG,ROHS
15	RA1061-0141	22uF/10V/M/X5R/1608	SMT C46,C48,C51,C53,C78,C80	CL10A226MP8NUNE,0603X226M100C	MSUNG ELECTRO MECHANICS,WAL	6 CAP-MLCC:1608,22uF,10V,M,X5R,ROHS
16	RA1061-0037	2.2uF/10V/K/X5R/1005	SMT C62,C71,C72,C73,C74,C181,C184,C185	L05A225KP5NNNC,0402X225K100L	MSUNG ELECTRO MECHANICS,WAL	11 CAP-MLCC:1005,2.2uF,10V,K,X5R,ROHS
17	RA1061-0142	22uF/6.3V/M/X5R/1608	SMT C88,C95	L10A226MQ8NUNE,0603X226M6R3	MSUNG ELECTRO MECHANICS,WAL	2 CAP-MLCC:1608,22uF,6.3V,M,X5R,ROHS
18	RA1061-0304	4.7uF/10V/K/X5R/1005	SMT C89,C96,C140,C161,C165,C220,C229,C	CL05A475KPSNNRC,0402X475K100C	MSUNG ELECTRO MECHANICS,WAL	8 CAP-MLCC:1005,4.7uF,10V,K,X5R,ROHS
19	RA1061-0032	1nF/50V/K/X7R/1005	SMT C119,C196,C223	CL05B102KB,0402N102K500	MSUNG ELECTRO MECHANICS,WAL	3 CAP-MLCC:1005,1nF,50V,K,X7R,ROHS
20	RA1061-0062	470pF/50V/K/X7R/1005	SMT C145	CL05B471KB,0402B471K500	MSUNG ELECTRO MECHANICS,WAL	1 CAP-MLCC:1005,470pF,50V,K,X7R,ROHS
21	RA1061-0041	220nF/25V/K/X5R/1005	SMT C167	CL05A224KA5NNNC,0402X224K250C	MSUNG ELECTRO MECHANICS,WAL	1 CAP-MLCC:1005,220nF,25V,K,X5R,ROHS
22	RA1061-0021	10pF/50V/J/COG/1005	SMT C198,C201	CL05C100JB,0402N100J500	MSUNG ELECTRO MECHANICS,WAL	2 CAP-MLCC:1005,10pF,50V,J,COG,ROHS
23	RA1061-0416	3.0pF/50V/C/NPO/1005	SMT C217	0402N3R0C500	WALSIN	1 CAP-MLCC:1005,3.0pF,50V,C,NPO,ROHS
24	RA1061-0417	820pF/50V/J/NPO/1608	SMT C219	0603N821J500	WALSIN	1 CAP-MLCC:1608,820pF,50V,J,NPO,ROHS
25	RA1061-0069	680pF/50V/K/COG/1005	SMT C563,C564	CL05B681KB5NNNC	SAMSUNG ELECTRO MECHANICS	2 CAP-MLCC:1005,680pF,50V,K,COG,ROHS
26	RA1061-0331	1pF/50V/B/COG/1005	SMT C585,C586	0402N1R0B500	WALSIN	2 CAP-MLCC:1005,1pF,50V,B,COG,ROHS
27	PA1151-0050	PHANTOM-ASSY	SMT D1			1 PT-DIODE-SCHOTTKY:BARRIER RECTIFIER,30V,3.0A
27-1	RA1101-0103	SBR3U30P1-7	SMT D1	SBR3U30P1-7	DIODES	0 DIODE-SWITCHING:SBR SUPER BARRIER RECTIFIER,3.0A,ROHS
27-2	RA1101-0139	SDB3A30H-HAF	SMT D1	SDB3A30H-HAF	TOPDYNAMIC	1 DIODE-SCHOTTKY:BARRIER RECTIFIER,30V,3.0A,ROHS
28	RA1101-0116	B560C-13-F	SMT D2	B560C-13-F	DIODES	1 DIODE-SCHOTTKY:40V,3A
29	PA1151-0049	PHANTOM-ASSY	SMT D3,D5			2 PT-DIODE:BRIDGE RECTIFLE,600V
29-1	RA1101-0102	MBS6	SMT D3,D5	MBS6	TAIWANSEMICONDUCTOR	0 DIODE-BRIDGE:BRIDGE RECTIFLE,600V,35A
29-2	RA1101-0135	MD55	SMT D3,D5	MD55	TOPDYNAMIC	2 DIODE-BRIDGE:BRIDGE RECTIFLE,600V,0.5A,30A
30	RA1101-0117	SBR3U40P1	SMT D4	SBR3U40P1	DIODES	1 DIODE-SWITCHING:SBR SUPER BARRIER RECTIFIER,3.0A,40V,ROHS
31	RA1101-0109	SRV25-4	SMT D6	SRV25-4	PROTEK DEVICES	1 PROTECTION-TVS:ULTRA,LOW CAPACITANCE STEERING
32	RA1101-0019	L-C170GCT,HSMG-C170	SMT D7	L-C170GCT,HSMG-C170	PARA LIGHT,BROADCOM LIMITED	1 LED-MONO:2012,GREEN,ROHS
33	RA1101-0021	L-C170SRCT	SMT D8	L-C170SRCT	PARA LIGHT	1 LED-MONO:2012,RED,ROHS
34	PA1151-0069	PHANTOM-ASSY	SMT D9			1 PT-DIODE-SCHOTTKY:40V,500mA,RECTIFIERS,SOD-123
34-1	RA1101-0051	MBR0540T1G	SMT D9	MBR0540T1G	ON SEMICONDUCTOR	0 DIODE-SCHOTTKY:40V,500mA,RECTIFIERS,SOD-123,ROHS
34-2	RA1101-0163	MBR0540W-HAF	SMT D9	MBR0540W-HAF	TOPDYNAMIC	1 DIODE-SCHOTTKY:40V,500mA,RECTIFIERS,SOD-123,ROHS
35	PA1151-0036	PHANTOM-ASSY	SMT D10,D11,D12,D13,D14			5 PT-DIODE-SWITCHING:VR100V,200mA,SOT-23
35-1	RA1101-0060	MMBD914LT1G0	SMT D10,D11,D12,D13,D14	MMBD914LT1G0	ON SEMICONDUCTOR	0 DIODE-SWITCHING:1.0V,200mA,SOT-23,ROHS
35-2	RA1101-0141	MMBD914	SMT D10,D11,D12,D13,D14	MMBD914	TOPDYNAMIC	5 DIODE-SWITCHING:VR100V,200mA,SOT-23,ROHS
36	PA1151-0067	PHANTOM-ASSY	SMT D15			1 PT-DIODE-SCHOTTKY:SOT-23
36-1	RA1101-0055	BAS70	SMT D15	BAS70	NXP SEMICONDUCTORS	0 DIODE-SCHOTTKY:SOT-23
36-2	RA1101-0156	BAS70	SMT D15	BAS70	TOPDYNAMIC	1 DIODE-SCHOTTKY:SOT-23
37	PA1151-0034	PHANTOM-ASSY	SMT D16			1 PT-DIODE-SCHOTTKY:Vf<0.45V,BARRIER,SOD-323
37-1	RA1101-0056	NSR0320MW2T1G	SMT D16	NSR0320MW2T1G	ON SEMICONDUCTOR	0 DIODE-SCHOTTKY:Vr=20V,Vf=0.24V,BARRIER,SOD-323,ROHS
37-2	RA1101-0140	SB491HS-HAF	SMT D16	SB491HS-HAF	TOPDYNAMIC	1 DIODE-SCHOTTKY:Vf<0.45V,BARRIER,SOD-323HE,ROHS
38	PA1151-0130	PHANTOM-ASSY	SMT EC1			1 PT-CAP-ALUMINUM:6.3x7.7,100uF,50V,M
38-1	RA1061-0365	100uF/50V/M	SMT EC1	UCM1H101MCL1GS	NICHICON	0 CAP-ALUMINUM:6.3x7.7,100uF,50V,105°C,M,ROHS
38-2	RA1061-0442	100uF/50V/M	SMT EC1	CD1H107M6L07KVR	SAMHWA ELECTRIC	1 CAP-ALUMINUM:6.3x7.7,100uF,50V,-55°Cto+105°C,M
39	PA1151-0145	PHANTOM-ASSY	SMT EC3			1 PT-CAP-ALUMINUM:10.3x10.3,330uF,M,ROHS
39-1	RA1061-0395	330uF/50V/M	SMT EC3	UCM1H331MNL1GS	NICHICON	0 CAP-ALUMINUM:10.3x10.3,330uF,35V,105°C,M,ROHS
39-2	RA1061-0457	330uF/50V/M	SMT EC3	CG1H337M10010VR	SAMHWA ELECTRIC	1 CAP-ALUMINUM:10.3x10.3,330uF,50V,-55°C to+105°C,M,2000h
40	RA1121-0002	1812L260/12MR	SMT F1	1812L260/12MR	LITTLEFUSE	1 PROTECTION-FUSE:1812,12V,2.6A,PTC,POLY SURFACE MOUNT
41	RA1041-0029	ACM7060-701-2PL	SMT F2	ACM7060-701-2PL	TDK	1 IND-FILTER:700Q,100MHz,4A,7X6X3.5,ROHS
42	RA1041-0021	CP201209T-221Y	SMT F3,F4	CP201209T-221Y	EROCORE	2 IND-BEAD:2012,250Q,100MHz,2800mA,ROHS
43	RA1041-0010	CP160808T-121Y	SMT F5,F6,F7,F8,F9,F10,F19,F21,F22,F26,F31	CP160808T-121Y	EROCORE	11 IND-BEAD:1608,120Q,100MHz,2000mA,ROHS
44	RA1041-0037	TPD4F003DQDR	SMT F11,F17	TPD4F003DQDR	TEXAS INSTRUMENTS	2 PROTECTION-TVS:4CH,8.5pF,200MHz,1.70mmX1.35mm,SWON-8
45	RA1111-0002	ICMEF112P900MFR	SMT F14,F15,F16,F18,F20,F23,F27	ICMEF112P900MFR	INNOCHIPS	7 IND-FILTER:COMMON MODE,ESD FILTER
46	RA1121-0003	FSMD010-0805	SMT F24,F25,F32,F33	FSMD010-0805	FUZETEC	4 PROTECTION-FUSE:2012,0.7Q,15VDC,0.1A,ROHS
47	RA1041-0026	CP201209T-601Y	SMT F29,F30	CP201209T-601Y	EROCORE	2 IND-BEAD:2012,600Q,100MHz,600mA,ROHS
48	RA1131-0001	IDSMT-W-4-4-3-H	SMT G1	IDSMT-W-4-4-3-H	DOOSUNG	1 GASKET-CUSHION:SMD,4.0(W)3.0(L)4.0(H)
49	RA1071-0067	53398-0271	SMT J1	53398-0271	MOLEX	1 CON-WTB:2PIN,1.25mm PITCH,SURFACE MOUNT,VERTICAL

106	RA1101-0118	TPD1E10B06	SMT	TVS9,TVS10,TVS11,TVS12,TVS13,TVS14	TPD1E10B06	TEXAS INSTRUMENTS	13	PROTECTION-TVS:TRANSIENT VOLTAGE SUPPRESSORS,ESD PROTECT,UDFN2
107	RA1101-0081	SMAJ33CA	SMT	TVS15,TVS16	SMAJ33CA	LITTLEFUSE	2	PROTECTION-TVS:400W,33V,TRANSIENT VOLTAGE,SMB,BIDIRECTIONAL
108	PA1151-0040	PHANTOM-ASSY	SMT	TVS17			1	PT-DIODE-TVS:300W,12A,SOT-23
108-1	RA1101-0074	SDT12S	SMT	TVS17	SDT12S	AUK	0	PROTECTION-TVS:300W,12A,SOT-23,ROHS
108-2	RA1101-0147	ESD12CA	SMT	TVS17	ESD12CA	TOPDYNAMIC	1	PROTECTION-TVS:Ppk300W,12V,12A,SOT-23,ROHS
109	RA1101-0108	PSM712	SMT	TVS18	PSM712	PROTEK DEVICES	1	PROTECTION-TVS:600W,2 ELEMENT,BIDIRECTIONAL
110	PA1151-0098	PHANTOM-ASSY	SMT	TVS19,TVS22,TVS23,TVS24			4	PT-PROTECTION-TVS:8CH,ROHS
110-1	RA1041-0035	TPD8F003	SMT	TVS19,TVS22,TVS23,TVS24	TPD8F003	TEXAS INSTRUMENTS	0	PROTECTION-TVS:100Q,17pF,8CH,Vbr=6V,ROHS
110-2	RA1041-0039	IP4252CZ16-8-TTL	SMT	TVS19,TVS22,TVS23,TVS24	IP4252CZ16-8-TTL	NEXPERIA	4	PROTECTION-TVS:40Q,12pF,8CH,Vbr=5.8V,ROHS
111	PA1151-0043	PHANTOM-ASSY	SMT	TVS25,TVS26,TVS29,TVS30			4	PT-DIODE-TVS:400W,15V,40A(SMAJ,SMA,LT&SMAF,HALOGEFREE)
111-1	RA1101-0079	SMAJ15A	SMT	TVS25,TVS26,TVS29,TVS30	SMAJ15A	LITTLEFUSE	0	PROTECTION-TVS:400W,15V,40A,UNIDIRECTIONAL,SMAJ,SMA,LT,ROHS
111-2	RA1101-0152	P4SMAFJ15A-HAF	SMT	TVS25,TVS26,TVS29,TVS30	P4SMAFJ15A-HAF	TOPDYNAMIC	4	PROTECTION-TVS:PppM400W,40A,15A,UNIDIRECTION,SMAF,HALOGEFREE,ROHS
112	RA1101-0088	SMBJ12CA	SMT	TVS27,TVS28	SMBJ12CA	LITTLEFUSE,FEIDA	2	PROTECTION-TVS:600W,12V,BIDIRECTIONAL,SMBJ,ROHS
113	RA1151-0356	TPS54340DDA	SMT	U1	TPS54340DDA	TEXAS INSTRUMENTS	1	POWER_IC-DCDC:DC-DC,3.5A,STEP-DOWN REGULATOR
114	RA1151-0291	AG9812M	SMT	U2	AG9812M	SILVERTEL	1	MODULE-POE:POE,OUTPUT,3.1 to 12.5V,1 to 1.8A
115	RA1151-0470	RK809-1	SMT	U3	RK809-1	ROCKCHIP	1	POWER_IC-PMIC:MULTI-CORE,POWER MANAGEMENT
116	RA1151-0434	KLMAG1JETD-B041	SMT	U4	KLMAG1JETD-B041	SAMSUNG ELECTRONICS	1	IC-ROM:EMMC,16GB,11.5X13X0.8,153FBGA
117	RA1151-0068	LAN8720AI	SMT	U5	LAN8720AI	MICROCHIP	1	IC-INTERFACE:ETHERNET,XCVR,W/HP,AUTOMDIXSUPPORT
118	RA1151-0074	TS8121CM	SMT	U6	TS8121CM	BOTHHAND	1	IND-TRANSFORMER:ETHERNET,ISOLATION,28pF,1.5Vrms
119	RA1151-0323	EMP8130-33VN05NRR	SMT	U7	EMP8130-33VN05NRR	ELITE SEMICONDUCTOR	1	POWER_IC-LDO:LOW NOISE,3.3V,300mA,LINEAR REGULATOR,SOT-23-5,ROHS
120	RA1151-0237	TPS61165DBVR	SMT	U8	TPS61165DBVR	TEXAS INSTRUMENTS	1	POWER_IC-DCDC:WHITE LED DRIVER,2X2mm,SOT-23,ROHS
121	RA1151-0469	STM32F030CCT6	SMT	U9	STM32F030CCT6	ST MICRO	1	IC-EMBEDDED:32BIT,256KB,FLASH,LQFP48,ROHS
122	RA1151-0412	AZRS3082.RDG	SMT	U10	AZRS3082.RDG	AMAZING IC	1	IC-INTERFACE:RS485,TRANSCEIVER,ESD PROTECT,115kbps,SO-8,ROHS
123	RA1151-0472	nRF52840-QIAA-GANG	SMT	U11	nRF52840-QIAA-R-DIAMOND-2540	NORDIC	1	IC-EMBEDDED:64MHz,BLE_IC,CORTEX-M4,FLASH=1025K,RAM=256K,aQFN,BOO
124	RA1151-0423	K4B4G1646E-BCNB	SMT	U29,U30	K4B4G1646E-BCNB	SAMSUNG ELECTRONICS	2	IC-RAM:DDR3,4Gbit SDRAM,256MX16,96FBGA,ROHS
125	RA1151-0468	PX30K	SMT	U31	PX30K	ROCKCHIP	1	IC-EMBEDDED:ARM,CORTEX-A35,QUAD,1.5GHz,0.65PITCH,TFBGA418L
126	RA1151-0248	RX8010SJ	SMT	U32	RX8010SJ	EPSON	1	IC-RTC_IC:1.6-5.5V,I2C,MODULE,INTERFACE
127	RA1151-0389	ATAES132A-MAHER	SMT	U33	ATAES132A-MAHER	MICROCHIP	1	IC-SECURE:EEPROM,32Kbit,SECURE,AES AUTHENTICATION,UDFN-8
128	PA1151-0101	PHANTOM-ASSY	SMT	U34			1	IC-SWITCH_IC:USB2.0,DPDT,50mA,QFN10,ROHS
128-1	RA1151-0397	UM7222	SMT	U34	UM7222	UNION ELEC	1	IC-SWITCH_IC:USB2.0,DPDT,6.5V,50mA,QFN10,ROHS
128-2	RA1151-0489	NLAS7222A	SMT	U34	NLAS7222A	ON SEMICONDUCTOR	0	IC-SWITCH_IC:USB2.0,DPDT,3.6V,50mA,QFN10,ROHS
129	RA1151-0440	NTJD1155L	SMT	U35,U37	NTJD1155L	ON SEMICONDUCTOR	2	IC-MONITOR:INTERGRATED LOAD SWITCH,SC-88,ROHS
130	RA1151-0172	CE8809C263MA	SMT	U38	CE8809C263MA	CHIPPOWER	1	IC-MONITOR:VOLTAGE DETECTOR,DELAY(210MS),SOT-23-3
131	RA1291-0019	SFI1210SN750-060K	SMT	VR1,VR2,VR3,VR4,VR5,VR6,VR7	SFI1210SN750-060K	SFI	7	PROTECTION-VARISTOR:3225,6KV,75VDC,ROHS
132	RA1091-0042	FC-135(32.768KHZ)	SMT	X1	FC-135(32.768KHZ)	EPSON	1	CLK-XTAL:32.768KHz,C=12.5pF,20PPM,FC-135,ROHS
133	RA1091-0021	FA-238A	SMT	X2	FA-238A	EPSON	1	CLK-XTAL:24MHz,C=12pF,20PPM,-40/85,FA-238A,ROHS
134	RA1091-0062	FA-238A_32MHz	SMT	X3	FA-238A_32MHz	EPSON	1	CLK-XTAL:32MHz,C=12pF,30PPM,FA-238A,ROHS
135	RA1211-0315	PCB-BUILD_UP	SMT			ISU PETASYSHUNAN	1	PCB-BUILD_UP:8-LAYER,70X115.6,1.2T,GREEN,XS2,V02,ROHS

	semi-manufactures name	XS2-QAPB-RF-BOARD-V02A		Semi-manufactures Code	HC18601-V02A	Semi-manufactures standard		
1	RA1033-0004	MS920T-FL27E	DIP	BT1	MS920T-FL27E	SEIKO INSTRUMENT	1	BATTERY-RECHG_BAT:3V,LITHIUM-ION,RECHARGEABLE,6.5mAh,ROHS
2	RA1061-0059	470nF/25V/K/X5R/1005	SMT	C1,C7	CL05A474KA5NUNC	SAMSUNG ELECTRO MECHANICS	2	CAP-MLCC:1005,470nF,25V,K,X5R,ROHS
3	RA1061-0015	100nF/16V/K/X7R/1005	SMT	C2,C3,C4,C5,C6, C8,C13,C36,C51,C66, C69,C71,C75,C76,C79, C82,C85,C86,C89,C92, C93,C96,C98,C100,C102, C106,C110	L05B104K05NUNC,0402B104K160C	MSUNG ELECTRO MECHANICS,WAL	27	CAP-MLCC:1005,100nF,16V,K,X7R,ROHS
4	RA1061-0085	10uF/10V/K/X5R/1608	SMT	C9,C10,C11,C12,C56, C67,C73,C90,C94	L10A106K6P8NNNC,0603X106K100C	MSUNG ELECTRO MECHANICS,WAL	9	CAP-MLCC:1608,10uF,10V,K,X5R,ROHS
5	RA1061-0350	1nF/50V/F/NPO/1608	SMT	C14,C39,C60,C65	CC0603FRNPO9BN102	YAGEO	4	CAP-MLCC:1608,1nF,50V,F,NPO,ROHS
6	RA1061-0021	10pF/50V/J/COG/1005	SMT	C17,C18,C19,C21,C34, C35	CL05C100JB,0402N100J500	MSUNG ELECTRO MECHANICS,WAL	6	CAP-MLCC:1005,10pF,50V,J,COG,ROHS
7	RA1061-0385	20pF/100V/G/NPO/1608	SMT	C20,C38	CC0603GRNPO0BN200	YAGEO	2	CAP-MLCC:1608,20pF,100V,G,NPO,ROHS
8	RA1061-0337	100pF/100V/F/NPO/1608	SMT	C22,C28	CC0603FRNPO0BN101	YAGEO	2	CAP-MLCC:1608,100pF,100V,F,NPO,ROHS
9	RA1061-0382	120pF/100V/F/NPO/1608	SMT	C23,C24,C30,C31	CC0603FRNPO0BN121	YAGEO	4	CAP-MLCC:1608,120pF,100V,F,NPO,ROHS
10	RA1061-0342	18pF/100V/F/NPO/1608	SMT	C25,C32,C63,C64	CC0603FRNPO0BN180	YAGEO	4	CAP-MLCC:1608,18pF,100V,F,NPO,ROHS
11	RA1061-0344	33pF/100V/F/NPO/1608	SMT	C27,C29	CC0603FRNPO0BN330	YAGEO	2	CAP-MLCC:1608,33pF,100V,F,NPO,ROHS
12	RA1061-0044	22pF/50V/J/COG/1005	SMT	C41,C104	CL05C220JB,0402N220J500	MSUNG ELECTRO MECHANICS,WAL	2	CAP-MLCC:1005,22pF,50V,J,COG,ROHS
13	RA1061-0029	18pF/50V/J/COG/1005	SMT	C42	CL05C180JB5NUNC	SAMSUNG ELECTRO MECHANICS	1	CAP-MLCC:1005,18pF,50V,J,COG,ROHS
14	RA1061-0035	1uF/16V/K/X5R/1005	SMT	C43,C46,C50,C74,C78, C91,C95,C97,C99,C101, C107,C109	CL05A105K05NUNC	SAMSUNG ELECTRO MECHANICS	12	CAP-MLCC:1005,1uF,16V,K,X5R,ROHS
15	RA1061-0169	4.7uF/10V/K/X5R/1608	SMT	C44,C45,C47,C48,C49	CL10A475KP8NNNC	SAMSUNG ELECTRO MECHANICS	5	CAP-MLCC:1608,4.7uF,10V,K,X5R,ROHS
16	RA1061-0424	1nF/100V/G/NPO/1608	SMT	C53,C54	CC0603GRNPO0BN102	YAGEO	2	CAP-MLCC:1608,1nF,100V,G,NPO,ROHS
17	RA1061-0359	270pF/100V/F/NPO/1608	SMT	C55,C61	CC0603FRNPO0BN271	YAGEO	2	CAP-MLCC:1608,270pF,100V,F,NPO,ROHS
18	RA1061-0074	100nF/50V/J/X7R/1608	SMT	C57,C58,C108	CL10B104JB8NNNC,0603B104J500	MSUNG ELECTRO MECHANICS,WAL	3	CAP-MLCC:1608,100nF,50V,J,X7R,ROHS
19	RA1061-0120	1uF/50V/K/X5R/1608	SMT	C62	CL10A105KB8NNNC,0603X105K500	MSUNG ELECTRO MECHANICS,WAL	1	CAP-MLCC:1608,1uF,50V,K,X5R,ROHS
20	RA1061-0053	33pF/50V/J/COG/1005	SMT	C68	CL05C330JB5NUNC,0402N330J500L	MSUNG ELECTRO MECHANICS,WAL	1	CAP-MLCC:1005,33pF,50V,J,COG,ROHS
21	RA1061-0017	100pF/50V/J/COG/1005	SMT	C70	CL05C101JB,0402N101J500	MSUNG ELECTRO MECHANICS,WAL	1	CAP-MLCC:1005,100pF,50V,J,COG,ROHS
22	RA1061-0304	4.7uF/10V/K/X5R/1005	SMT	C77	CL05A475KP5NUNC,0402X475K100	MSUNG ELECTRO MECHANICS,WAL	1	CAP-MLCC:1005,4.7uF,10V,K,X5R,ROHS
23	RA1061-0061	470pF/50V/J/COG/1005	SMT	C103	CL05C471JB5NUNC,0402N471J500	MSUNG ELECTRO MECHANICS,WAL	1	CAP-MLCC:1005,470pF,50V,J,COG,ROHS
24	RA1061-0025	150pF/50V/J/COG/1005	SMT	C105	CL05C151JB,0402N151J500	MSUNG ELECTRO MECHANICS,WAL	1	CAP-MLCC:1005,150pF,50V,J,COG,ROHS
25	RA1061-0423	3.9nF/50V/J/COG/1608	SMT	C111	GRM1885C1H392JA01D	MURATA	1	CAP-MLCC:1608,3.9nF,50V,J,COG,ROHS
26	PA1151-0050	PHANTOM-ASSY	SMT	D1			1	PT-DIODE-SCHOTTKY-BARRIER RECTIFIER,30V,3.0A
26-1	RA1101-0103	SBR3U30P1-7	SMT	D1	SBR3U30P1-7	DIODES	0	DIODE-SWITCHING:SBR SUPER BARRIER RECTIFIER,3.0A,ROHS
26-2	RA1101-0139	SDB3A30H-HAF	SMT	D1	SDB3A30H-HAF	TOPDYNAMIC	1	DIODE-SCHOTTKY-BARRIER RECTIFIER,30V,3.0A,ROHS
27	RA1041-0008	BLM18PG121SN1	SMT	F1,F2	BLM18PG121SN1	MURATA	2	IND-BEAD:1608,120Q,100MHz,2000mA,ROHS
28	RA1071-0174	TF31-8S-0.5SH	SMT	J1	TF31-8S-0.5SH	HIROSE	1	CON-FFC_FPC:8PIN,0.5mm PITCH,RA TYPE,ROHS
29	RA1071-0065	53261-0271	SMT	J2	53261-0271	MOLEX	1	CON-WTB:2PIN,1.25mm PITCH,RA TYPE,ROHS
30	RA1071-0177	0310-61RL-GF	SMT	J3	0310-61RL-GF	QWYCONN	1	CON-FFC_FPC:61PIN,0.3mm PITCH,FRONT,FLIP TYPE,ROHS
31	RA1071-0153	CX90B1-24P(110)	SMT	J4	CX90B1-24P(110)	HIROSE	1	CON-USB:USB_C TYPE,ROHS
32	RA1071-0167	05010HR-24C(G)	SMT	J5	05010HR-24C(G)	YEONHO	1	CON-FFC_FPC:24PIN,0.5mm PITCH,RA DUAL CONTACT,ROHS
33	RA1161-0095	NLV32T-R82J-EF	SMT	L1,L2	NLV32T-R82J-EF	TDK	2	IND-INDUCTOR:820nH,3.2X2.5X2.2,3225,J,ROHS
34	RA1161-0069	LQM21PN2R2MGHL	SMT	L3	LQM21PN2R2MGHL	MURATA	1	IND-INDUCTOR:2.2uH,1.7A,2012,M,ROHS
35	RA1111-0002	ICMEF112P900MFR	SMT	L4	ICMEF112P900MFR	INNOCIPS	1	IND-FILTER:COMMON MODE,ESD FILTER
36	PA1151-0126	PHANTOM-ASSY	SMT	Q3,Q4			2	PT-TR_FET-FET:N-CHANNEL,60V,SOT-23,SINGLE
36-1	RA1151-0047	2N7002LT1G	SMT	Q3,Q4	2N7002LT1G	ON SEMICONDUCTOR	0	TR_FET-FET:N-CH,7.5Q,60V,115mA,SINGLE,SOT-23,ROHS
36-2	RA1151-0510	MMBT7002K-HAF	SMT	Q3,Q4	MMBT7002K-HAF	TOPDYNAMIC	2	TR_FET-FET:MOSFET,N-CHANNEL,60V,300mA,3Q,SOT-23,SINGLE
37	RA1231-0117	4.7K/J/1005	SMT	R1,R9,R10,R36,R50, R59,R60,R65,R71	05J472CS,WR04X472JTL,RC0402JR-0	JNG ELECTRO MECHANICS,WALSIN,	9	RES-RESISTOR:1005,4.7KQ,50V,1/16W,J,ROHS
38	RA1231-0231	30K/F/1608	SMT	R2,R15	RC1608F303CS,WR06X303FTL	MSUNG ELECTRO MECHANICS,WAL	2	RES-RESISTOR:1608,30KQ,50V,1/10W,F,ROHS
39	RA1231-0039	100J/J/1005	SMT	R3,R4,R5,R6	5J101CS,WR04X101JTL,RC0402JR-0	JNG ELECTRO MECHANICS,WALSIN,	4	RES-RESISTOR:1005,100Q,50V,1/16W,J,ROHS
40	RA1231-0064	1K/F/1005	SMT	R7,R13	05F102CS,WR04X102FTL,RC0402FR-0	JNG ELECTRO MECHANICS,WALSIN,	2	RES-RESISTOR:1005,1KQ,50V,1/16W,F,ROHS
41	RA1231-0372	0.5/F/2012	SMT	R8,R14	WW08XR500FTL	WALSIN	2	RES-RESISTOR:2012,0.5Q,150V,1/8W,F,ROHS
42	RA1231-0092	27K/F/1005	SMT	R17	RC1005F273CS,RC0402FR-0727KL	MSUNG ELECTRO MECHANICS,YAG	1	RES-RESISTOR:1005,27KQ,50V,1/16W,F,ROHS
43	RA1231-0041	10K/J/1005	SMT	R18,R29,R35,R37,R38, R39,R41,R48,R49,R51, R68	05J103CS,WR04X103JTL,RC0402JR-0	JNG ELECTRO MECHANICS,WALSIN,	11	RES-RESISTOR:1005,10KQ,50V,1/16W,J,ROHS
44	RA1231-0369	9.1K/F/1005	SMT	R19	5F912CS,WR04X9101FTL,RC0402FR-0	JNG ELECTRO MECHANICS,WALSIN,	1	RES-RESISTOR:1005,9.1KQ,50V,1/16W,F,ROHS
45	RA1231-0166	0/J/1608	SMT	R20	08J000CS,WR06X000PTL,RC0603JR-0	JNG ELECTRO MECHANICS,WALSIN,	1	RES-RESISTOR:1608,0Q,50V,1/10W,J,ROHS
46	RA1231-0242	39.2/F/1608	SMT	R22	RC1608F392CS,WR06X392FTL	MSUNG ELECTRO MECHANICS,WAL	1	RES-RESISTOR:1608,39.2Q,50V,1/10W,F,ROHS
47	RA1231-0037	100K/J/1005	SMT	R24,R26	5J104CS,WR04X104JTL,RC0402JR-0	JNG ELECTRO MECHANICS,WALSIN,	2	RES-RESISTOR:1005,100KQ,50V,1/16W,J,ROHS
48	RA1231-0030	0/J/1005	SMT	R25,R30,R32,R33,R40, R47,R70	05J000CS,WR04X000JTL,RC0402JR-0	JNG ELECTRO MECHANICS,WALSIN,	7	RES-RESISTOR:1005,0Q,50V,1/16W,J,ROHS

49	RA1231-0109	33/J/1005	SMT	R34	5J330CS,WR04X330JTL,RC0402JR-0	JNG ELECTRO MECHANICS,WALSIN,	1	RES-RESISTOR:1005,33Q,50V,1/16W,J,ROHS
50	RA1231-0044	10/J/1005	SMT	R44,R61,R62	5J100CS,WR04X100JTL,RC0402JR-0	JNG ELECTRO MECHANICS,WALSIN,	3	RES-RESISTOR:1005,10Q,50V,1/16W,J,ROHS
51	RA1231-0150	620/J/1005	SMT	R45,R46	RC1005J621CS,RC0402JR-07620RL	MSUNG ELECTRO MECHANICS,YAG	2	RES-RESISTOR:1005,620Q,50V,1/16W,J,ROHS
52	RA1231-0383	33/J/6432	SMT	R52,R53	WR25X330JTL	WALSIN	2	RES-RESISTOR:6432,33Q,50V,1W,J,ROHS
53	RA1231-0358	5.1K/F/1005	SMT	R54,R55	5F512CS,WR04X5101FTL,RC0402FR-0	JNG ELECTRO MECHANICS,WALSIN,	2	RES-RESISTOR:1005,5.1KQ,50V,1/16W,F,ROHS
54	RA1231-0087	240/J/1005	SMT	R57	5J241CS,WR04X241JTL,RC0402JR-0	JNG ELECTRO MECHANICS,WALSIN,	1	RES-RESISTOR:1005,240Q,50V,1/16W,J,ROHS
55	RA1231-0127	470/J/1005	SMT	R58	5J471CS,WR04X471JTL,RC0402JR-0	JNG ELECTRO MECHANICS,WALSIN,	1	RES-RESISTOR:1005,470Q,50V,1/16W,J,ROHS
56	RA1231-0073	2.7K/J/1005	SMT	R64	WR04X272JTL	WALSIN	1	RES-RESISTOR:1005,2.7KQ,50V,1/16W,J,ROHS
57	RA1231-0202	18K/J/1608	SMT	R69	RC1608J183CS,WR06X183JTL	MSUNG ELECTRO MECHANICS,WAL	1	RES-RESISTOR:1608,18KQ,50V,1/10W,J,ROHS
58	RA1061-0269	ECTH100505103H3435HST	SMT	TH1	ECTH100505103H3435HST	JOINSET	1	RES-THERMISTOR:1005,10KQ,H,25°C,ROHS
59	PA1151-0098	PHANTOM-ASSY	SMT	TVS1,TVS4,TVS6,TVS7,TVS8			5	PT-PROTECTION-TVS:8CH,ROHS
59-1	RA1041-0035	TPD8F003	SMT	TVS1,TVS4,TVS6,TVS7,TVS8	TPD8F003	TEXAS INSTRUMENTS	0	PROTECTION-TVS:100Q,17pF,8CH,Vbr=6V,ROHS
59-2	RA1041-0039	IP4252CZ16-8-TTL	SMT	TVS1,TVS4,TVS6,TVS7,TVS8	IP4252CZ16-8-TTL	NEXPERIA	5	PROTECTION-TVS:40Q,12pF,8CH,Vbr=5.8V,ROHS
60	RA1101-0118	TPD1E10B06	SMT	TVS2,TVS3,TVS5,TVS9	TPD1E10B06	TEXAS INSTRUMENTS	4	PROTECTION-TVS:TRANSIENT VOLTAGE SUPPRESSORS,ESD PROTECT,UDFN2
61	RA1151-0426	CLRC66303HN	SMT	U1	CLRC66303HN	NXP SEMICONDUCTORS	1	IC-RFIC:13.56MHz,CONTROLLER,HVQFN33,ROHS
62	PA1151-0027	PHANTOM-ASSY	SMT	U2			1	PT-IC-PMIC:LDO,VOUT=1.2 to 5V,SOT23-5
62-1	RA1151-0212	EMP8966-00VF05GRR	SMT	U2	EMP8966-00VF05GRR	ELITE SEMICONDUCTOR	1	POWER_IC-LDO:LDO,600mA,VOUT=1.2 to 5V,SOT23-5,ROHS
62-2	RA1151-0393	RT9043GB	SMT	U2	RT9043GB	RICHTEK	0	POWER_IC-LDO:LDO,400mA,VOUT=1.2 to 5V,SOT23-5,ROHS
63	RA1151-0241	EM4095	SMT	U3	EM4095	EM MICRO	1	IC-RFIC:125KHz,RFID BASESTATION,SOP-16,ROHS
64	RA1151-0522	SEL55100000	SMT	U4	SEL55100000	HID	1	IC-RFIC:20PIN,OMNIAKEY Secure Element,ISO7816,4x4mm,0.5P,VFQFPN20
65	RA1151-0282	EUP3545AVIR1	SMT	U5	EUP3545AVIR1	EUTECH MICROELECTRONICS	1	IC-MONITOR:USB_LOAD,SOT23-5
66	RA1151-0440	NTJD1155L	SMT	U6,U11	NTJD1155L	ON SEMICONDUCTOR	2	IC-MONITOR:INTERGRATED LOAD SWITCH,SC-88,ROHS
67	PA1151-0101	PHANTOM-ASSY	SMT	U8			1	PT-IC-SWITCH_IC:USB2.0,DPDT,50mA,QFN10,ROHS
67-1	RA1151-0397	UM7222	SMT	U8	UM7222	UNION ELEC	1	IC-SWITCH_IC:USB2.0,DPDT,6.5V,50mA,QFN10,ROHS
67-2	RA1151-0489	NLAS7222A	SMT	U8	NLAS7222A	ON SEMICONDUCTOR	0	IC-SWITCH_IC:USB2.0,DPDT,3.6V,50mA,QFN10,ROHS
68	RA1041-0037	TPD4F003DQDR	SMT	U12	TPD4F003DQDR	TEXAS INSTRUMENTS	1	PROTECTION-TVS:4CH,8.5pF,200MHz,1.70mmX1.35mm,SWON-8
69	RA1091-0034	TSX-3225	SMT	X1	TSX-3225	EPSON	1	CLK-XTAL:27.12MHz,C=12pF,10PPM,-40/85,TSX-3225,ROHS
70	PA1151-0099	PHANTOM-ASSY	SMT	X2			1	PT-CLK-OSC:3.6864MHz,3.3V,ROHS
70-1	RA1201-0016	SG-310SCF (3.686400MHZ)	SMT	X2	SG-310SCF (3.686400MHZ)	EPSON	0	CLK-OSC:3.6864MHz,3.3V,SX-3225,ROHS
70-2	RA1201-0018	SG-8018CE(3.686400MHZ)	SMT	X2	SG-8018CE(3.686400MHZ)	EPSON	0	CLK-OSC:3.6864MHz,3.3V,3225,ROHS
70-3	RA1201-0019	SO3225_3.6864MHZ	SMT	X2	SO3225-00366-F1A-3FAE-DA	YOKETAN	1	CLK-OSC:3.6864MHz,3.3V,SO3225,ROHS
71	RA1211-0353	PCB-MLB	SMT			GPN	1	PCB-MLB:6-LAYER,70X47.8,1.2T,GREEN,XS2,RF,V02,ROHS

Semi-manufactures name		XS2-IO-BOARD-V01A		Semi-manufactures Code		Semi-manufactures standard		
1	RA1071-0172	HB13-2-20-(2.0 2.0)(BOSS)	SMT	J1	HB13-2-20-(2.0 2.0)(BOSS)	SHINHWHA TECH	1	CON-HEADER:20PIN,2.00mm PITCH,MALE,DUAL ROW,SMD,ROHS
2	RA1071-0175	YDAW200-22	DIP	J2	YDAW200-22	YEONHO	1	CON-WTB:22PIN,2.00mm PITCH,DUAL ROW,RA TYPE,DIP,ROHS
3	RA1291-0019	SF11210SN750-060K	SMT	VR1	SF11210SN750-060K	SFI	1	PROTECTION-VARISTOR:3225,6KV,75VDC,ROHS
4	RA1211-0293	PCB-MLB	SMT			GPN	1	PCB-MLB:2-LAYER,35X25,1.2T,BLACK,XS2.IO,V01,ROHS

semi-manufactures name	XS2-BAR-BOARD-V01A		Semi-manufactures Code		Semi-manufactures standard			
1	RA1061-0015	100nF/16V/K/X7R	SMT	C1,C2,C4,C6,C9, C13,C18,C19,C20	CL05B104K05NNNC 0402B104K160CT	SAMSUNG ELECTRO WALSIN	9	C-MLCC:1005,100nF,16V,K,X7R,ROHS
2	RA1061-0035	1uF/16V/K/X5R	SMT	C3,C5,C7,C10,C11, C17	CL05A105K05NNN	SAMSUNG ELECTRO	6	C-MLCC:1005,1uF,16V,K,X5R,ROHS
3	RA1061-0037	2.2uF/10V/K/X5R/1005	SMT	C8	CL05A225KPSNNNC,0402X225K10 0LT	SAMSUNG ELECTRO MECHANICS,WALSIN	1	CAP-MLCC:1005,2.2uF,10V,K,X5R,ROHS
4	RA1061-0304	4.7uF/10V/K/X5R/1005	SMT	C12	CL05A475KPSNRNC,0402X475K10 0	SAMSUNG ELECTRO MECHANICS,WALSIN	1	CAP-MLCC:1005,4.7uF,10V,K,X5R,ROHS
5	RA1061-0085	10uF/10V/K/X5R/1608	SMT	C14,C16	CL10A106K8NNNC,0603X106K10 0CT	SAMSUNG ELECTRO MECHANICS,WALSIN	2	CAP-MLCC:1608,10uF,10V,K,X5R,ROHS
6	RA1061-0044	22pF/50V/C0G	SMT	C15	CL05C220JB 0402N220J500	SAMSUNG ELECTRO WALSIN	1	C-MLCC:1005,22pF,50V,J,C0G,ROHS
7	PA1151-0068	PHANTOM-ASSY	SMT	D1,D2			2	PT-DIODE-TVS:5V,125W,STANDOFF VOLTAGE,SC-75
7-1	RA1101-0085	RCLAMP0502B.TCT	SMT	D1,D2	RCLAMP0502B.TCT	SEMTECH	0	PROTECTION-TVS:5V,125W,STANDOFF VOLTAGE,SC-75,ROHS
7-2	RA1101-0165	ESDL0502CAE	SMT	D1,D2	ESDL0502CAE	TOPDYNAMIC	2	PROTECTION-TVS:5V,125W,STANDOFF VOLTAGE,SC-75,ROHS
8	RA1041-0008	BLM18PG121SN1	SMT	F1	BLM18PG121SN1	MURATA	1	IND-BEAD:1608,120Q,100MHz,2000mA,ROHS
9	RA1131-0001	IDSMT-W-4-4-3-H	SMT	G1	IDSMT-W-4-4-3-H	DOOSUNG	1	GASKET-CUSHION:SMD,4.0(W)3.0(L)4.0(H)
10	RA1071-0155	TF31-24S-0.5SH	SMT	J1	TF31-24S-0.5SH	HIROSE	1	CON-FFC_FPC:24PIN,0.5mm PITCH,2.0mm HEIGHT,HORIZONTAL,ROHS
11	RA1071-0153	CX90B1-24P(110)	SMT	J2	CX90B1-24P(110)	HIROSE	1	CON-USB:USB,C TYPE,ROHS
12	RA1071-0173	TF31-12S-0.5SH	SMT	J3	TF31-12S-0.5SH	HIROSE	1	CON-FFC_FPC:12PIN,0.5mm PITCH,RA TYPE,ROHS
13	RA1071-0174	TF31-8S-0.5SH	SMT	J4	TF31-8S-0.5SH	HIROSE	1	CON-FFC_FPC:8PIN,0.5mm PITCH,RA TYPE,ROHS
14	RA1111-0002	ICMEF112P900MFR	SMT	L1	ICMEF112P900MFR	INNOCHIPS	1	IND-FILTER:COMMON MODE,ESD FILTER
15	RA1161-0069	LQM21PN2R2MGHL	SMT	L2	LQM21PN2R2MGHL	MURATA	1	IND-INDUCTOR:2.2uH,1.7A,2012,M,ROHS
16	RA1231-0358	5.1K/F/1005	SMT	R1,R2	RC1005F512CS,WR04X5101FTL	SAMSUNG ELECTRO MECHANICS,WALSIN	2	RES-RESISTOR:1005,5.1KQ,50V,1/16W,F,ROHS
17	RA1231-0030	0/J/1005	SMT	R3,R8,R9,R10,R12, R18,R19	RC1005J000CS,WR04X000JTL	SAMSUNG ELECTRO MECHANICS,WALSIN	7	RES-RESISTOR:1005,0Q,50V,1/16W,J,ROHS
18	RA1231-0069	2.2K/J/1005	SMT	R4,R5	RC1005J222CS,WR04X222JTL	SAMSUNG ELECTRO MECHANICS,WALSIN	2	RES-RESISTOR:1005,2.2KQ,50V,1/16W,J,ROHS
19	RA1231-0041	10K/J/1005	SMT	R6,R7,R14	RC1005J103CS,WR04X103JTL	SAMSUNG ELECTRO MECHANICS,WALSIN	3	RES-RESISTOR:1005,10KQ,50V,1/16W,J,ROHS
20	RA1231-0293	0/J/2012	SMT	R11	RC2012J000CS,WR08X000JTL	SAMSUNG ELECTRO MECHANICS,WALSIN	1	RES-RESISTOR:2012,0Q,150V,1/8W,J,ROHS
21	RA1231-0048	120K/F/1005	SMT	R13	RC1005F124CS,WR04X1203FTL	SAMSUNG ELECTRO MECHANICS,WALSIN	1	RES-RESISTOR:1005,120KQ,50V,1/16W,F,ROHS
22	RA1231-0092	27K/F/1005	SMT	R15	RC1005F273CS	SAMSUNG ELECTRO MECHANICS	1	RES-RESISTOR:1005,27KQ,50V,1/16W,F,ROHS
23	RA1231-0039	100/J/1005	SMT	R16,R17	RC1005J101CS,WR04X101JTL	SAMSUNG ELECTRO MECHANICS,WALSIN	2	RES-RESISTOR:1005,100Q,50V,1/16W,J,ROHS
24	RA1101-0118	TPD1E10B06	SMT	TVS1,TVS2,TVS3,TVS4,TVS5	TPD1E10B06	TEXAS INSTRUMENTS	5	PROTECTION-TVS:TRANSIENT VOLTAGE SUPPRESSORS,ESD PROTECT,UDFN2
25	RA1151-0190	TLV62565DBVR	SMT	U1	TLV62565DBVR	TEXAS INSTRUMENTS	1	POWER_IC-DCDC:5PIN,1.5A SW REGULATOR,STEP-DOWN CONVERTER,SOT-23
26	RA1211-0294	PCB-MLB	SMT			GPN	1	PCB-MLB:2-LAYER,60.4X29.3,1.2T,GREEN,XS2,BAR,V01,ROHS

	Semi-manufactures name		Semi-manufactures Code		Semi-manufactures standard			
1	RA1061-0015	100nF/16V/K/X7R	SMT	C1,C4,C6,C14,C16,	L05B104KO5NNNC,0402B104K160C	SAMSUNG ELECTRO	8	C-MLCC:1005,100nF,16V,K,X7R,ROHS
2	RA1061-0085	10uF/10V/K/X5R/1608	SMT	C2,C3,C15,C18	L10A106KP8NNNC,0603X106K100C	MSUNG ELECTRO MECHANICS,WAL	4	CAP-MLCC:1608,10uF,10V,K,X5R,ROHS
3	RA1061-0035	1uF/16V/K/X5R	SMT	C5,C7,C12,C13,C21	CL05A105KO5N11N	SAMSUNG ELECTRO	5	C-MLCC:1005,1uF,16V,K,X5R,ROHS
4	RA1061-0017	100pF/50V/J/C0G/1005	SMT	C17	CL05C101JB,0402N101J500	MSUNG ELECTRO MECHANICS,WAL	1	CAP-MLCC:1005,100pF,50V,J,C0G,ROHS
5	PA1151-0068	PHANTOM-ASSY	SMT	D1,D2			2	PT-DIODE-TVS:5V,125W,STANDOFF VOLTAGE,SC-75
5-1	RA1101-0085	RCLAMP0502B.TCT	SMT	D1,D2	RCLAMP0502B.TCT	SEMTECH	0	PROTECTION-TVS:5V,125W,STANDOFF VOLTAGE,SC-75,ROHS
5-2	RA1101-0165	ESDL0502CAE	SMT	D1,D2	ESDL0502CAE	TOPDYNAMIC	2	PROTECTION-TVS:5V,125W,STANDOFF VOLTAGE,SC-75,ROHS
6	RA1041-0008	BLM18PG121SN1	SMT	F1	BLM18PG121SN1	MURATA	1	IND-BEAD:1608,120Q,100MHz,2000mA,ROHS
7	RA1071-0155	TF31-245-0.5SH	SMT	J1	TF31-245-0.5SH	HIROSE	1	CON-FFC_FPC:24PIN,0.5mm PITCH,2.0mm HEIGHT,HORIZONTAL,ROHS
8	RA1071-0153	CX9081-24P(110)	SMT	J2	CX9081-24P(110)	HIROSE	1	CON-USB:USB,C TYPE,ROHS
9	RA1071-0165	SM08B-SURS-TF	SMT	J4	SM08B-SURS-TF	JST	1	CON-WTB:8PIN,0.8mm PITCH,HORIZONTAL MOUNTING TYPE
10	RA1111-0002	ICMEF112P900MFR	SMT	L1,L2	ICMEF112P900MFR	INNOCHIPS	2	IND-FILTER:COMMON MODE,ESD FILTER
11	RA1231-0358	5.1K/F/1005	SMT	R1,R2	RC1005F512CS,WR04X5101FTL	MSUNG ELECTRO MECHANICS,WAL	2	RES-RESISTOR:1005,5.1KQ,50V,1/16W,F,ROHS
12	RA1231-0041	10K/J/1005	SMT	R5,R7,R11,R13,R15	RC1005J103CS,WR04X103JTL	MSUNG ELECTRO MECHANICS,WAL	5	RES-RESISTOR:1005,10KQ,50V,1/16W,J,ROHS
13	RA1231-0117	4.7K/J/1005	SMT	R6,R14	RC1005J472CS,WR04X472JTL	MSUNG ELECTRO MECHANICS,WAL	2	RES-RESISTOR:1005,4.7KQ,50V,1/16W,J,ROHS
14	RA1231-0030	0/J/1005	SMT	R8,R9,R10,R12	RC1005J000CS,WR04X000JTL	MSUNG ELECTRO MECHANICS,WAL	4	RES-RESISTOR:1005,0Q,50V,1/16W,J,ROHSB19:A19:N24
15	RA1231-0383	33/J/6432	SMT	R16,R17	WR25X330JTL	WALSIN	2	RES-RESISTOR:6432,33Q,50V,1W,J,ROHS
16	RA1101-0118	TPD1E10B06	SMT	TVS1,TVS3,TVS5	TPD1E10B06	TEXAS INSTRUMENTS	3	PROTECTION-TVS:TRANSIENT VOLTAGE SUPPRESSORS,ESD PROTECT,UDFN2
17	RA1151-0440	NTJD1155L	SMT	U1,U3	NTJD1155L	ON SEMICONDUCTOR	2	IC-MONITOR:INTERGRATED LOAD SWITCH,SC-88,ROHS
18	RA1151-0397	UM7222	SMT	U2	UM7222	UNION ELEC	1	IC-SWITCH_IC:USB2.0,DPDT,6.5V,50mA,QFN10,ROHS
19	RA1211-0310	PCB-MLB	SMT			GPN	1	PCB-MLB:2-LAYER,64.1X22.0,1.2T,GREEN,XS2,FINGER,V01,ROHS

Semi-manufactures name	XS2-SAM-BOARD-V01A		Semi-manufactures Code	HJ18602-V01A	Semi-manufactures standard			
1	RA1061-0035	1uF/16V/K/X5R/1005	SMT	C1,C3,C8	CL05A105K05NNN	SAMSUNG ELECTRO MECHANICS	3	CAP-MLCC:1005,1uF,16V,K,X5R,ROHS
2	RA1061-0015	100nF/16V/K/X7R/1005	SMT	C2,C4,C6,C9,C10,C11,C13	L058104K05NNC,0402B104K160C	SUNG ELECTRO MECHANICS,WAL	7	CAP-MLCC:1005,100nF,16V,K,X7R,ROHS
3	RA1061-0304	4.7uF/10V/K/X5R/1005	SMT	C5,C12,C17	CL05A475KP5NRRNC,0402X475K100	SUNG ELECTRO MECHANICS,WAL	3	CAP-MLCC:1005,4.7uF,10V,K,X5R,ROHS
4	RA1061-0053	33pF/50V/J/C0G/1005	SMT	C14,C15	CL05C330JB5NNND,0402N330J500L	SUNG ELECTRO MECHANICS,WAL	2	CAP-MLCC:1005,33pF,50V,J,C0G,ROHS
5	PA1151-0034	PHANTOM-ASSY	SMT	D1			1	PT-DIODE-SCHOTTKY:Vf<0.45V,BARRIER,SOD-323
5-1	RA1101-0056	NSR0320MW2T1G	SMT	D1	NSR0320MW2T1G	ON SEMICONDUCTOR	0	DIODE-SCHOTTKY:Vr=20V,Vf=0.24V,BARRIER,SOD-323,ROHS
5-2	RA1101-0140	SB491HS-HAF	SMT	D1	SB491HS-HAF	TOPDYNAMIC	1	DIODE-SCHOTTKY:Vf<0.45V,BARRIER,SOD-323HE,ROHS
6	PA1151-0068	PHANTOM-ASSY	SMT	D2			1	PT-DIODE-TVS:5V,125W,STANDOFF VOLTAGE,SC-75
6-1	RA1101-0085	RCLAMP0502B.TCT	SMT	D2	RCLAMP0502B.TCT	SEMTECH	0	PROTECTION-TVS:5V,ESD18KV,AIR,12KV_CONTACT,2LINE,ROHS
6-2	RA1101-0165	ESDL0502CAE	SMT	D2	ESDL0502CAE	TOPDYNAMIC	1	PROTECTION-TVS:5V,125W,STANDOFF VOLTAGE,SC-75,ROHS
7	RA1041-0010	CP160808T-121Y	SMT	F1	CP160808T-121Y	EROCORE	1	IND-BEAD:1608,120Q,100MHZ,2000mA,ROHS
8	RA1071-0155	TF31-24S-0.5SH	SMT	J1	TF31-24S-0.5SH	HIROSE	1	CON-FFC_FPC:24PIN,0.5mm PITCH,2.0mm HEIGHT,HORIZONTAL,ROHS
9	RA1071-0153	CX9081-24P(110)	SMT	J2	CX9081-24P(110)	HIROSE	1	CON-USB:USB,C TYPE,ROHS
10	RA1071-0191	MUP-C708-5	SMT	J3	MUP-C708-5	MUP	1	CON-SOCKET:SIM,6PIN,PUSH-PULL,1.8T,2.54mm PITCH
11	RA1111-0002	ICMEF112P900MFR	SMT	L1	ICMEF112P900MFR	INNOCHIPS	1	IND-FILTER:COMMON MODE,ESD FILTER
12	RA1231-0109	33J/1005	SMT	R1,R2,R7,R8	5J330CS,WR04X330JTL,RC0402JR-0	JING ELECTRO MECHANICS,WALSIN,	4	RES-RESISTOR:1005,33Q,50V,1/16W,J,ROHS
13	RA1231-0039	100J/1005	SMT	R3	5J101CS,WR04X101JTL,RC0402JR-0	JING ELECTRO MECHANICS,WALSIN,	1	RES-RESISTOR:1005,100Q,50V,1/16W,J,ROHS
14	RA1231-0358	5.1K/F/1005	SMT	R4,R5	5F512CS,WR04X5101FTL,RC0402FR-0	JING ELECTRO MECHANICS,WALSIN,	2	RES-RESISTOR:1005,5.1KQ,50V,1/16W,F,ROHS
15	RA1231-0041	10K/J/1005	SMT	R6,R9	5J103CS,WR04X103JTL,RC0402JR-0	JING ELECTRO MECHANICS,WALSIN,	2	RES-RESISTOR:1005,10KQ,50V,1/16W,J,ROHS
16	RA1101-0118	TPD1E10B06	SMT	TVS1,TVS2,TVS3,TVS4,TVS5,TVS6,TVS7,TVS8,TVS9	TPD1E10B06	TEXAS INSTRUMENTS	9	PROTECTION-TVS:TRANSIENT VOLTAGE SUPPRESSORS,ESD PROTECT,UI
17	RA1151-0323	EMP8130-33VN05NRR	SMT	U1	EMP8130-33VN05NRR	ELITE SEMICONDUCTOR	1	POWER_IC-LDO:LOW NOISE,3.3V,300mA,LINEAR REGULATOR,SOT-23-5,
18	PA1151-0099	PHANTOM-ASSY	SMT	X1			1	PT-CLK-OSC:3.6864MHZ,3.3V,ROHS
18-1	RA1201-0016	SG-310SCF (3.686400MHZ)	SMT	X1	SG-310SCF (3.686400MHZ)	EPSON	0	CLK-OSC:3.6864MHZ,3.3V,SX-3225,ROHS
18-2	RA1201-0018	SG-8018CE(3.686400MHZ)	SMT	X1	SG-8018CE(3.686400MHZ)	EPSON	0	CLK-OSC:3.6864MHZ,3.3V,3225,ROHS
18-3	RA1201-0019	SO3225_3.6864MHZ	SMT	X1	SO3225-003686-F1A-3FAE-DA	YOKETAN	1	CLK-OSC:3.6864MHZ,3.3V,SO3225,ROHS
19	RA1211-0341	PCB-MLB	SMT			GPN	1	PCB-MLB:2-LAYER,60.4X29.3,1.2T,GREEN,XS2,SAM,V01,ROHS