



Bill of Material

Reference	CR95HF		Designer	Release	Version			
Name			Verifier	Verification	Type			
PN	Qty	Description	Manufacturer	Reference	Install.	Supplier	Observations	Sim.
BAR0001899	1	3PTS V M BAR PITCH 2.54	ANTELEC	A60-254-03-7G	TH	988	G CNT	YES
replacement	1	pin header male,2.54mm,1*03,L=11.6,Vertical	Lyconn	313103S111116	TH	988		YES
N.A.								
Installed positions (1) : ST1						Not installed positions (0) :		
CAP0000053	1	TAJA TANTAL SMD CAP	AVX	TAJA475K010R	SMD	988		YES
Package : TAJ-A, Tolerance : 10%, Capacity : 4.7µF, Voltage : 10V, Min temp. : -55°C, Max temp. : 125°C								
Installed positions (1) : C17						Not installed positions (0) :		
CAP0000055	5	CERAMIC SMD CAP (X7R)	AVX	0603YC104KAT	SMD	988		YES
replacement	5	100nF,10%,16V,X7R,0603,YAGEO	YAGEO	CC0603KRX7R7BB104	SMD	988		YES
Package : 0603, Tolerance : 10%, Capacity : 100nF, Voltage : 16V, Min temp. : -55°C, Max temp. : 125°C								
Installed positions (5) : C19-C23						Not installed positions (0) :		
CAP0000480	3	CERAMIC SMD CAP (X7R)	AVX	08055C104KAT	SMD	988		YES
replacement	3	100nF,10%,50V,X7R,0805,YAGEO	YAGEO	CC0805KRX7R9BB104	SMD	988		YES
Package : 0805, Tolerance : 10%, Capacity : 100nF, Voltage : 50V, Min temp. : -55°C, Max temp. : 125°C								
Installed positions (3) : C16, C26-C27						Not installed positions (0) :		
CAP0002223	1	293D TANTAL SMD POL CAP	SPRAGUE	293D105X9016A	SMD	988		YES
replacement	1	1µF,10%,16V,Tan-A,AVX	AVX	TAJA105K016R	SMD	988		YES
Package : 293D-A, Tolerance : 10%, Capacity : 1µF, Voltage : 16V, Min temp. : -55°C, Max temp. : 85°C								
Installed positions (1) : C9						Not installed positions (0) :		
CAP0002227	1	293D TANTAL SMD POL CAP	SPRAGUE	293D225X9035C	SMD	988		YES
Package : 293D-C, Tolerance : 10%, Capacity : 2.2µF, Voltage : 35V, Min temp. : -55°C, Max temp. : 85°C								
Installed positions (1) : C28						Not installed positions (0) :		
CAP0002231	1	293D TANTAL SMD POL CAP	SPRAGUE	293D106X9035D	SMD	988		YES
Package : 293D-D, Tolerance : 10%, Capacity : 10µF, Voltage : 35V, Min temp. : -55°C, Max temp. : 85°C								
Installed positions (1) : C18						Not installed positions (0) :		
CAP0003361	2	GRM39 CERAMIC SMD CAP (COG)	MURATA	GRM1885C1H100KA01D	SMD	988		YES
replacement	2	10pF,5%,50V,NPO,0603,YAGEO	YAGEO	CC0603JRNPO9BN100	SMD	988		YES
Package : 0603, Tolerance : 5%, Capacity : 10pF, Voltage : 50V, Min temp. : -55°C, Max temp. : 125°C								
Installed positions (2) : C7-C8						Not installed positions (0) :		
CAP0003362	2	GRM39 CERAMIC SMD CAP (X7R)	MURATA	GRM1887R1H103KA01D	SMD	988		YES
replacement	2	10nF,0603,50V,10%,X7R,YAGEO	YAGEO	CC0603KRX7R9BB103	SMD	988		YES

Package : 0603, Tolerance : 10%, Capacity : 10nF, Voltage : 50V, Min temp. : -55°C, Max temp. : 125°C									
Installed positions (2) : C10, C25							Not installed positions (0) :		
CAP0003371	1	GRM39 CERAMIC SMD CAP (X7R)	MURATA	GRM188R71H102KA01D	SMD	988			YES
replacement	1	1nF,10%,50V,X7R,0603,YAGEO	YAGEO	CC0603KRX7R9BB102	SMD	988			YES
Package : 0603, Tolerance : 10%, Capacity : 1nF, Voltage : 50V, Min temp. : -55°C, Max temp. : 125°C									
Installed positions (1) : C5							Not installed positions (0) :		
CAP0003416	1	GRM40 CERAMIC SMD CAP (X7R)	MURATA	GRM216R71H472JA01D	SMD	988			YES
replacement	1	0805(2012) ±10% X7R 50 V 4,700	YAGEO	CC0805KRX7R9BB472	SMD	988			YES
Package : 0805, Tolerance : 10%, Capacity : 4.7nF, Voltage : 50V, Min temp. : -55°C, Max temp. : 125°C									
Installed positions (1) : C24							Not installed positions (0) :		
CAP0007672	2	GRM40 CERAMIC SMD CAP (COG)	MURATA	GRM2165C1H200JA01L	SMD	988			YES
replacement	2	0805(2012) ±5% NP0 50 V 20	YAGEO	CC0805JRNPO9BN200	SMD	988			YES
Package : 0805, Tolerance : 5%, Capacity : 20pF, Voltage : 50V, Min temp. : -55°C, Max temp. : 125°C									
Installed positions (2) : C13-C14							Not installed positions (0) :		
CAP0012229	2	CERAMIC SMD CAPACITOR (X7R)	AVX	06033C104KAT2A	SMD	988			YES
replacement	2	100nF,10%,50V,X7R,0603,YAGEO;	YAGEO	CC0603KRX7R9BB104	SMD	988			YES
Package : 0603, Tolerance : 10%, Capacity : 100nF, Voltage : 25V, Min temp. : -55°C, Max temp. : 125°C									
Installed positions (2) : C15, C29							Not installed positions (0) :		
CAP0019324	2	MULTILAYER CERAMIC CAPACITORS 150pF 0603 1%	AVX	LD033A151FAB2A	SMD	988			YES
replacement	2	0603(1608) ±1% NP0 50 V 150	YAGEO	CC0603FCNPO9BN151	SMD	988			YES
replacement	2	0603(1608) ±1% NP0 50 V 150	murata	GRM1885C1H151FA01D	SMD	988			YES
Package : 0603, Tolerance : 1%, Capacity : 150pF, Voltage : 25V, Min temp. : -55°C, Max temp. : 125°C									
Installed positions (2) : C2A, C2B							Not installed positions (0) :		
CAP0019325	2	MULTILAYER CERAMIC CAPACITORS 180pF 0603 1%	AVX	LD035A181FAB2A	SMD	988			YES
replacement	2	0603(1608) ±1% NP0 50 V 180	YAGEO	CC0603FCNPO9BN181	SMD	988			YES
replacement	2	0603(1608) ±1% NP0 50 V 180	MURATA	GRM1885C1H181FA01D	SMD	988			YES
Package : 0603, Tolerance : 1%, Capacity : 180pF, Voltage : 50V, Min temp. : -55°C, Max temp. : 125°C									
Installed positions (2) : C01-C02							Not installed positions (0) :		
CAP0019326	2	MULTILAYER CERAMIC CAPACITORS 82pF 0603 1%	AVX	LD031A820FAB2A	SMD	988			YES
replacement	2	0603(1608) ±1% NP0 100 V 82	YAGEO	CC0603FRNPO0BN820	SMD	988			YES

	replacement	2	0603(1608) ±1% NP0 100 V 82	MURATA	GRM1885C2A820FA01D	SMD	988		YES
	replacement	2	0603(1608) ±1% NP0 50V 82	MURATA	GRM1885C1H820FA01D	SMD	988		YES
Package : 0603, Tolerance : 1%, Capacity : 82pF, Voltage : 100V, Min temp. : -55°C, Max temp. : 125°C									
Installed positions (2) : C11-C12							Not installed positions (0) :		
	CIT0017067	1	ARM BASED 32BIT SMD MCU	ST MICROELECTRONICS	STM32F103CBT6TR	SMD	ST		NO
Package : LQFP48, Min temp. : -40°C, Max temp. : 85°C									
Installed positions (1) : U1							Not installed positions (0) :		
	CIT0018419	1	CR95HF SMD CIRCUIT	ST MICROELECTRONICS	CR95HF	SMD	ST		NO
Package : QFN32, Min temp. : 0°C, Max temp. : 0°C									
Installed positions (1) : U2							Not installed positions (0) :		
	COT0003248	1	HE10 M V LOW PROFILE 20P	3M	2520-6002-UG	TH	988		YES
	replacement	1	IDC,2.54mm,2*10P,black,Vertical,DIP	townes	B302-20-S-GF-B	TH	988		YES
N.A.									
Installed positions (1) : J3							Not installed positions (0) :		
	EMB0013842	1	USB SOCKET TYPE B	MOLEX	67068-0000	TH	988		YES
	replacement			Molex	67068-8000				YES
N.A.									
Installed positions (1) : J1							Not installed positions (0) :		
	FLT0005947	1	SMD FERRITE REF:742792093	WURTH ELEKTRONIK	N.R.	SMD	988		NO
N.A.									
Installed positions (1) : L2							Not installed positions (0) :		
	FLT0017284	1	FERRITE CHIP BEAD 600 OHM	MURATA	BLM18AG601SN1	SMD	988	-55°C TO +125°C	NO
Min temp. : -55°C, Max temp. : 125°C									
Installed positions (1) : L4							Not installed positions (0) :		
	FLT0018267	7	MULTILAYER SMD FERRITE	WURTH ELEKTRONIK	742792042	SMD	988		NO
Min temp. : -55°C, Max temp. : 125°C									
Installed positions (7) : L01-L3, L5-L8							Not installed positions (0) :		
	FLT0018270	1	SMD COMMON NOISE SUPPRESSOR	WURTH ELEKTRONIK	744232222	SMD	988		NO
Min temp. : -40°C, Max temp. : 125°C									
Installed positions (1) : L1							Not installed positions (0) :		
	FLT0018613	1	MULTILAYER SMD FERRITE	WURTH ELEKTRONIK	742792641	SMD	988		NO
Min temp. : -55°C, Max temp. : 125°C									
Installed positions (1) : FL2							Not installed positions (0) :		
	FLT0018620	1	SURFACE MOUNT EMI FILTERS	MURATA	NFM18PS105R0J3D	SMD	988		NO

Min temp. : -55°C, Max temp. : 105°C									
Installed positions (1) : FL3							Not installed positions (0) :		
FLT0018624	1	SMD COMMON NOISE SUPPRESSOR	WURTH ELEKTRONIK	744232090	SMD	988			NO
Min temp. : -40°C, Max temp. : 125°C									
Installed positions (1) : FL1							Not installed positions (0) :		
JMP0003556	1	BLACK JUMPER PITCH2.54	HARWIN	M7567-05	Sup.	988			YES
replacement	1	BLACK JUMPER PITCH2.54	Lyconn	316102S111A	Sup.	988			YES
N.A.									
Installed positions (1) : E1							Not installed positions (0) :		
LED0000274	1	SMD RED LED (20mA)	STANLEY	BR1102W	SMD	988			YES
replacement	1	SMD RED LED (20mA)	everlight	15-21SURC-S530-XX-TR8	SMD	988			YES
N.A.									
Installed positions (1) : LED1							Not installed positions (0) :		
OSC0009443	1	SMD CRYSTAL OSCILLATOR	FOX ELECTRONICS	N.R.	SMD	988			NO
replacement	1	SMD CRYSTAL OSCILLATOR,8M,20PF,20ppm	JFVNY	HC-49XA-C20QQA-8.000MHz	SMD	988			NO
Package : HC49SD, Frequency : 8MHz									
Installed positions (1) : Y1							Not installed positions (0) :		
OSC0013080	1	CRYSTAL SMD NX2520SA 27.12MHz	NDK	N.R.	SMD	988	-30?+85?C		NO
Package : 2,5X2mm, Frequency : 27.12MHz									
Installed positions (1) : X1							Not installed positions (0) :		
RES0002527	1	RC12H SERIES RESISTOR (0805)	PHILIPS	RC12H-47K-0805	SMD	988			YES
replacement	1	47K,0805,1%,RC0805FR-0747KL	YAGEO	RC0805FR-0747KL	SMD	988			YES
Package : 0805, Tolerance : 1%, Resistance : 47kΩ, Power : 0.125W									
Installed positions (1) : R15							Not installed positions (0) :		
RES0002634	2	RC22H SERIES RESISTOR (0603)	PHILIPS	RC22H-10U-0603	SMD	988			YES
replacement	2	10R,0603,1%,YAGEO	YAGEO	RC0603FR-0710RL	SMD	988			YES
Package : 0603, Tolerance : 1%, Resistance : 10Ω, Power : 0.063W									
Installed positions (2) : R9-R10							Not installed positions (0) :		
RES0002653	2	RC22H SERIES RESISTOR (0603)	PHILIPS	RC22H-330U-0603	SMD	988			YES
replacement	2	330R,0603,1%	YAGEO	RC0603FR-07330RL	SMD	988			YES
Package : 0603, Tolerance : 1%, Resistance : 330Ω, Power : 0.063W									
Installed positions (2) : RRX1-RRX2							Not installed positions (0) :		
RES0002694	1	RC22H SERIES RESISTOR (0603)	PHILIPS	RC22H-1K5-0603	SMD	988			YES
replacement	1	1.5K,0603,1%,YAGEO	YAGEO	RC0603FR-071K5L	SMD	988			YES
Package : 0603, Tolerance : 1%, Resistance : 1.5kΩ, Power : 0.063W									
Installed positions (1) : R11							Not installed positions (0) :		
RES0002698	5	RC22H SERIES RESISTOR (0603)	PHILIPS	RC22H-3K3-0603	SMD	988			YES
replacement	5	3.3K,0603,1%	YAGEO	RC0603FR-073K3L	SMD	988			YES
Package : 0603, Tolerance : 1%, Resistance : 3.3kΩ, Power : 0.063W									

Installed positions (5) : R4, R24-R27							Not installed positions (0) :		
RES0002704	11	RC22H SERIES RESISTOR (0603)	PHILIPS	RC22H-10K-0603	SMD	988		YES	
replacement	11	10K,0603,1%	YAGEO	RC0603FR-0710KL	SMD	988		YES	
Package : 0603, Tolerance : 1%, Resistance : 10kΩ, Power : 0.063W									
Installed positions (11) : R6-R7, R13, R16-R23							Not installed positions (0) :		
RES0002727	2	RC22H SERIES RESISTOR (0603)	PHILIPS	RC22H-1M-0603	SMD	988		YES	
replacement	2	1M,0603,1%,YAGEO	YAGEO	RC0603FR-071ML	SMD	988		YES	
Package : 0603, Tolerance : 1%, Resistance : 1MΩ, Power : 0.063W									
Installed positions (2) : R3, R8							Not installed positions (0) :		
RES0004040	2	CRCW SERIES RESISTOR (0603)	VISHAY	CRCW0603-0U	SMD	988		YES	
replacement	2	0R,0603,1%	VISHAY	CRCW06030000Z0EB	SMD	988		YES	
Package : 0603, Tolerance : 1%, Resistance : 0Ω									
Installed positions (2) : R28-R29							Not installed positions (0) :		
RES0005986	1	RC12H SERIES RESISTOR (0805)	PHILIPS	RC12H-36K-0805	SMD	988		YES	
replacement	1	36K,1%,0805,RC0805FR-0736KL	YAGEO	RC0805FR-0736KL	SMD	988		YES	
Package : 0805, Tolerance : 1%, Resistance : 36kΩ, Power : 0.125W									
Installed positions (1) : R14							Not installed positions (0) :		
RES0013875	1	RC SERIES RESISTOR (0603) RC0603-604R-1%	YAGEO	RC0603-604R-1%	SMD	988		YES	
replacement	1	604R,0603,1%	YAGEO	RC0603FR-07604RL	SMD	988		YES	
Package : 0603, Tolerance : 1%, Resistance : 604Ω, Power : 0.1W									
Installed positions (1) : R2							Not installed positions (0) :		
SWI0013404	1	SMD BLACK PPS PUSH SWITCH 4PTS 4-1437565-1	TYCO ELECTRONICS	4-1437565-1	SMD	988	ACTUATION FORCE : 160g	YES	
replacement	1	SMD BLACK PPS PUSH SWITCH 4PTS	Qiaod	TC-03XG-5.0	SMD	988		YES	
Min temp. : -35°C, Max temp. : 85°C									
Installed positions (1) : S1							Not installed positions (0) :		
TRS0017065	1	3.3V VOLTAGE REGULATOR	ST MICROELECTRONICS	KF33BDT	SMD	988	REGULATOR	NO	
Adj. voltage : False, Min temp. : -40°C, Max temp. : 125°C, Package : DPAK, Power : 0W, Voltage : 3.3V									
Installed positions (1) : REG1							Not installed positions (0) :		
TRS0017076	2	NPN AMPLIFIER	MULTICOMP	BC817-16	SMD	988	NPN	NO	
replacement	2		NXP	BC817-16	SMD	988		YES	
Adj. voltage : False, Min temp. : -65°C, Max temp. : 150°C, Package : SOT23, Power : 300mW, Voltage : 45V									
Installed positions (2) : Q1-Q2							Not installed positions (0) :		
RES0004496	1	SMD RESISTOR (0603-OPEN)			SMD	988	NOT MOUNTED	YES	
Package : 0603									
Installed positions (1) : RQNC							Not installed positions (0) :		

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MEC0017280	4	BUMPON PROTECTIVE PRODUCT SJ5306	3M	SJ5306	SMD	988	NO
N.A.							
<i>Installed positions (4) : B1-B4</i>						<i>Not installed positions (0) :</i>	

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