

**4G SecureControl Bill Of Materials**

Item	Qty	Reference	Description	Mfg Part#	Manufacturer	Mounting status	Alternated Part no.
1	1	BH1	BATTERY LITH 12.5MM 3V/48mAH	BR-1225/HCN	Panasonic		
2	1	BZ1	BUZZER PIEZO 4.1KHZ 14MM PC MT	PK-12N40PQ	Mallory Sonalert		BRP1408P-12-CS-S
3	88	C1, C2, C3, C4, C5, C7, C8, C11, C12, C13, C14, C18, C19, C22, C24, C25, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C41, C42, C43, C44, C45, C46, C47, C48, C49, C51, C52, C53, C54, C59, C61, C62, C65, C66, C67, C68, C70, C71, C77, C90, C91, C92, C93, C94, C95, C96, C97, C98, C100, C101, C102, C103, C104, C106, C107, C109, C110, C111, C112, C113, C134, C136, C138, C139, C141, C142, C144, C146, C147, C148, C173, C176, C179, C184, C185	CAP CERAMIC .1UF 16V X5R 0402	ECJ-0EB1C104K	Panasonic - ECG		
4	2	C105, C108	CAP CER 22PF 50V 0402 SMD	ECJ-0EC1H220J	Panasonic - ECG	NU	
5	2	C115, C116	CAP CER 33PF 50V 0402 SMD	ECJ-0EC1H330J	Panasonic - ECG		
6	5	C117, C119, C123, C169, C180	CAP CER 10nF 100V X7R 10%0603	C1608X7R2A103K	TDK Corporation		
7	3	C125, C126, C127	CAP CER 2.2UF 16V X5R 0603	C1608X5R1C225K	TDK Corporation		
8	2	C128, C152	CAP CER 22000PF 100V X7R 10%0603	C1608X7R2A223K	TDK Corporation		
9	2	C129, C151	CAP CER 10UF 35V X5R 1206	GRM31CR6YA106KA12L	Murata Electronics		
10	1	C131	CAP CERM 15000PF 5% 50V X7R 0603	06035C153JAT2A	AVX Corporation		
11	1	C132	CAP 150PF 50V CERAMIC X7R 0402	ECJ-0EB1H151K	Panasonic - ECG		
12	7	C133, C135, C137, C140, C174, C175, C181	CAP CER 1.0UF 10V X5R 0402	GRM155R61A105KE15D	Murata		GRM155R61A105KE15D
13	1	C143	CAP 27PF 50V CERAMIC 0402 SMD	ECJ-0EC1H270J	Panasonic - ECG		
14	5	C149, C150, C164, C166, C167	CAP, CER, 10pF, 50V, 5%, COG, 0402	GRM1555C1H100JZ01D	Murata		GRM1555C1H100JZ01D
15	4	C153, C154, C156, C157	CAP CER 1000PF 100V X7R 10% 0603	06031C102KAT2A	AVX		06031C102KAT2A
16	1	C155	CAP CER 100PF 50V 5% C0G 0402	GRM1555C1H101JZ01D	Murata		
17	1	C158	CAP CERAMIC .1UF 10V X5R 0402	CC0402KRX5R6BB104	Yageo		
18	2	C159, C160	CAP CER 1000PF 100V XYR 0603	06031C102KAT2A	AVX		06031C102KAT2A
19	1	C168	CAP CERM 1000PF 2000V X7R 1206	1206GC102KAT1A	AVX Corporation		
20	1	C170	CAP CER 100nF 100V X7R 10% 0805	C2012X7R2A104K	TDK Corporation	NU	
21	2	C171, C183	CAP CER 10UF 35V X5R 1206	GRM31CR6YA106KA12L	Murata Electronics	NU	
22	1	C177	CAP CER 1000PF 100V X7R 10% 0603	06031C102KAT2A	AVX	NU	06031C102KAT2A
23	1	C21	CAP CER 22UF 10V X5R 0805	LMK212BJ226MG-T	Taiyo Yuden		
24	21	C6, C9, C10, C15, C16, C17, C20, C40, C50, C55, C57, C60, C64, C114, C118, C120, C121, C122, C124, C145, C178	CAP CER 10UF 10V X5R 20% 0603	LMK107BJ106MALTD	Taiyo Yuden		
25	1	C83	CAP CER 56PF 5% 2KV C0G 1812	1812GA560JAT1A	AVX		
26	3	C84, C130, C182	CAP CER 100nF 100V X7R 10% 0805	C2012X7R2A104K	TDK Corporation		
27	1	C99	CAP CER .22UF 16V Y5V 0402	EMK105BJ224KV-F	Taiyo Yuden		EMK105BJ224KV-F
28	1	CE1	CAP POLY ALUM 150UF 10V SMD	EEE-FP1A151AP	Panasonic - ECG		
29	1	D14	DIODE ZENER 28V 500MW SOD-123	MMSZ5255B-7-F	Littelfuse Inc		
30	3	D2, D3, D6	DIODE SWITCH 75V 200MW SC70-3	BAS16W-7-F	Diodes Inc		
31	1	D4	DIODE SCHOTTKY 40V 3A SMB	B340B-13-F	Diodes Inc		
32	1	D5	DIODE SCHOTTKY 3A 80V SMB	SK38B-TP	Micro Commercial		
33	1	DM1	TerminalBlock, 1x12, 3.5mm, RA	TJ1211030000	Anytek		EB1350-12-000 (EBY) or 39500-0012 (Molex)
34	1	DM5	TerminalBlock, 1x14, 3.5mm, RA	TJ1411030000	Anytek		EB1350-14-000 (EBY) or 39500-0014 (Molex)

35	8	DM6, DM7, DM8, DM9, DM10, DM11, DM12, DM13	12.7mm 2pin LED SPACER T-1 .500"	7373	Keystone		
36	1	ESD1	VARIATOR TVS 30VDC 280A 1210	VC121030H620DP	AVX Corporation		
37	1	F1	POLYSWITCH RXE SERIES 1.10A	RXEF110	Tyco /Raychem		
38	3	FB1, FB2, FB22	FERRITE CHIP 100 OHM 1A 0603	MPZ1608D101B	TDK		
39	7	FB10, FB11, FB13, FB18, FB32, FB33, FB35	FERRITE CHIP 26 OHM 6000MA 0603	BLM18KG260TN1D	Murata Electronics		
40	1	FB12	FERRITE CHIP 26 OHM 6000MA 0603	BLM18KG260TN1D	Murata Electronics		
41	1	FB14	FERRITE CHIP 26 OHM 6000MA 0603	BLM18KG260TN1D	Murata Electronics	NU	
42	18	FB3, FB15, FB16, FB17, FB20, FB23, FB24, FB25, FB26, FB27, FB28, FB29, FB30, FB36, FB37, FB38, FB39, FB40	FERRITE CHIP 600 OHM 300MA 0402	BLM15AG601SN1D	Murata Electronics		
43	2	FB34, FB41	FILTER CHIP 330 OHM 1.5A 0603	BLM18SG331TN1D	Murata Electronics		
44	1	FB4	FERRITE CHIP 600 OHM 300MA 0402	BLM15AG601SN1D	Murata		
45	1	FB42	Choke w/6 hole ferrite core, 3A 702ohm	74275046	Würth Elektronik		
46	2	FB5, FB6	FERRITE CHIP 1000 OHM 2A 1210	FBMH3225HM102NT	Taiyo Yuden		
47	1	J10	TerminalBlock, 1x14, 3.5mm, RA, PTH	OQ1412010000	Anytek		HC1381-14-000 (EBY) or 39502-1014 (Molex)
48	1	J2	1.0mm SHD 180 smt	SHD-VT-20-LF	Morethanall		
49	1	J3	Connector, RJ45, RA, with LED	MJF13UL-KX06B3YG-0808-LF	Morethanall		
50	1	J6	Connector, Header, 1.25mm, 8 pin, single row, SMD	DF13C-8P-1.25V(20)	Hirose		
51	1	J9	TerminalBlock, 1x12, 3.5mm, RA, PTH	OQ1212010000	Anytek		HC1381-12-000 (EBY) or 39502-1012 (Molex)
52	2	L1, L5	POWER INDUCTOR 82UH 1.4A SMD	CDRH125NP-820MC	Sumida		
53	3	L2, L3, L4	INDUCTOR POWER 2.2UH 1.3A SMD	VLS3010T-2R2M1R3	TDK Corp		
54	1	L6	CHOKES COMMON MODE 1KOHM 1.5A 2020	DLW5BSN102SQ2L	Murrata		
55	1	L7	IND, 6.8UH 32mohm, 3.7A, SMD	NR8040T6R8N	Taiyo Yuden		
56	1	LED1	LED 3MM BLUE/WATER CLEAR LENS PTH	SSL-LX3044USBC	LUMEX		
57	7	LED2, LED3, LED4, LED5, LED6, LED7, LED8	RG BiColor Common Cathode LED 3mm PTH	LL-309IGM2E-I1-2A_LED	LuckyLight		
58	1	PCB	PCB, Mainboard, SecureControl, 4G	811-00157-01R	KWT		
59	3	Q1, Q2, Q3	MOSFET N-CH 55V 335MA SOT-23	BSH111, 215	NXP Semiconductor		BSH111
60	1	Q4	MOSFET P-CH 60V 9.4A DPAK	FQD11P06TM	Fairchild		
61	1	Q5	TRANSISTOR PNP SW 40V SOT323	MMST4403-TP	Micro Commercial Co		
62	4	Q6, Q7, Q8, Q9	TRANS GP SS NPN 40V SOT23	MMBT3904LT1G	ON Semiconductors		
63	59	R1, R2, R8, R9, R10, R11, R12, R13, R14, R15, R18, R60, R65, R73, R74, R75, R92, R93, R95, R96, R99, R102, R110, R112, R127, R128, R136, R137, R148, R149, R156, R157, R166, R167, R174, R176, R187, R188, R195, R196, R197, R199, R217, R218, R219, R220, R221, R222, R223, R224, R225, R228, R231, R232, R248, R253, R254, R255, R256	RES 22 OHM 1/16W 1% 0402 SMD	RC0402FR-0722RL	Yageo		RC0402FR-0722RL
64	1	R103	RES 1.87K OHM 1/16W 0.5% 0402 SMD	RR0510P-1871-D	Susumu		
65	10	R122, R123, R140, R154, R155, R172, R173, R184, R185, R212	RES 3.3K OHM 1/10W 5% 0402 SMD	ERJ-2GEJ332X	Panasonic - ECG		
66	1	R132	RES 22 OHM 1/10W 5% 0402 SMD	ERJ-2GEJ220X	Panasonic - ECG	NU	
67	14	R16, R25, R33, R37, R97, R139, R141, R142, R143, R152, R162, R180, R181, R192	RES ZERO OHM 1/10W 5% 0402 SMD	ERJ-2GE0R00X	Panasonic - ECG		
68	5	R17, R58, R59, R61, R63	RES 49.9 OHM 1/10W 1% 0402 SMD	ERJ-2RKF49R9X	Panasonic - ECG		
69	2	R19, R146	RES ZERO OHM 1/10W 5% 0402 SMD	ERJ-2GE0R00X	Panasonic - ECG	NU	
70	1	R194	RES 100 OHM 1W 5% 2512 SMD	CRCW2512100RJNEG	Vishay/Dale		

71	12	R20, R21, R67, R68, R71, R72, R105, R111, R113, R205, R206, R209	RES 1.00K OHM 1/10W 1% 0402 SMD	ERJ-2RKF1001X	Panasonic - ECG		
72	46	R22, R36, R43, R64, R66, R86, R90, R104, R107, R108, R109, R114, R126, R129, R130, R131, R147, R150, R151, R158, R159, R160, R161, R170, R171, R175, R177, R178, R179, R186, R189, R190, R191, R198, R200, R201, R202, R203, R204, R207, R208, R210, R211, R213, R214, R215	RES 10.0K OHM 1/10W 1% 0402 SMD	ERJ-2RKF1002X	Panasonic - ECG		
73	1	R238	RES 200K OHM 1/10W 1% 0402 SMD	ERJ-2RKF2003X	Panasonic - ECG		
74	1	R239	RES 300K OHM 1/10W 1% 0402 SMD	ERJ-2RKF3003X	Panasonic - ECG		
75	1	R240	RES 61.9K OHM 1/10W 1% 0402 SMD	ERJ-2RKF6192X	Panasonic - ECG		
76	1	R241	RES 160K OHM 1/10W 1% 0402 SMD	ERJ-2RKF1603X	Panasonic - ECG		
77	1	R243	RES 5.60K OHM 1/10W 1% 0402 SMD	ERJ-2RKF5601X	Panasonic - ECG		
78	1	R244	RES 2K OHM 1/10W 1% 0402 SMD	ERJ-2RKF2001X	Panasonic - ECG		
79	2	R250, R252	RES 5.1 OHM 1/10W 5% 0402 SMD	ERJ-2GEJ5R1X	Panasonic - ECG		
80	1	R251	RES 10 OHM 1/10W 5% 0402 SMD	ERJ-2GEJ100X	Panasonic - ECG		
81	1	R32	RESISTOR 1.0 OHM 1/10W 1% 0603	RC0603FR-071RL	Yageo		RC0603FR-071RL
82	17	R35, R38, R94, R124, R125, R134, R135, R144, R145, R153, R163, R164, R165, R168, R169, R182, R183	RES 220 OHM 1/10W 5% 0402 SMD	ERJ-2GEJ221X	Panasonic - ECG		
83	3	R39, R40, R50	RES 4.7K OHM 1/10W 5% 0402 SMD	ERJ-2GEJ472X	Panasonic - ECG	NU	
84	12	R4, R5, R6, R7, R23, R24, R26, R27, R28, R29, R30, R31	RES 10.0K OHM 1/10W 1% 0402 SMD	ERJ-2RKF1002X	Panasonic - ECG		
85	20	R44, R45, R47, R55, R56, R57, R62, R98, R100, R101, R106, R230, R233, R234, R235, R236, R237, R242, R245, R249	RES 4.7K OHM 1/10W 5% 0402 SMD	ERJ-2GEJ472X	Panasonic - ECG		
86	4	R46, R51, R53, R54	RES 75 OHM 1/10W 5% 0603 SMD	RC0603JR-0775RL	Yageo Corporation		RC0603JR-0775RL
87	2	R48, R49	RES 1.00K OHM 1/10W 1% 0402 SMD	ERJ-2RKF1001X	Panasonic - ECG	NU	
88	1	R52	RES 1.24K OHM 1/10W 1% 0402 SMD	ERJ-2RKF1241X	Panasonic - ECG		
89	1	R69	RES 10.0K OHM 1/10W 1% 0402 SMD	ERJ-2RKF1002X	Panasonic - ECG	NU	
90	1	R70	RES 120 OHM 1/10W 5% 0402 SMD	ERJ-2GEJ121X	Panasonic - ECG		
91	1	R79	RES 680 OHM 1/10W 5% 0402 SMD	ERJ-2GEJ681X	Panasonic - ECG		
92	1	R82	RESISTOR 5.1 OHM 1/10W 5% 0402	ERJ-2GEJ5R1X	Panasonic - ECG	NU	
93	1	R83	RES 4.7K OHM 1/10W 5% 0402 SMD	ERJ-2GEJ472X	Panasonic-ECG		
94	1	R84	RES 348K OHM 1/10W 1% 0402 SMD	ERJ-2RKF3483X	Panasonic - ECG		
95	1	R85	RES 6.8K OHM 1/16W 5% 0402 SMD	RC0402JR-076K8L	Yageo		RC0402JR-076K8L
96	3	R87, R246, R247	RES 100K OHM 1/10W 5% 0402 SMD	ERJ-2GEJ104X	Panasonic - ECG		
97	1	R88	RES 76.8K OHM 1/10W 1% 0402 SMD	ERJ-2RKF7682X	Panasonic - ECG		
98	1	R89	RES 110K OHM 1/10W 1% 0402 SMD	ERJ-2RKF1103X	Panasonic - ECG		
99	1	R91	RES 0.0 OHM 1/8W 0805 SMD	ERJ-6GEY0R00V	Panasonic - ECG	NU	
100	7	RN1, RN2, RN3, RN4, RN5, RN6, RN7	RES ARRAY 22 OHM 5% 4 RES SMD	EXB-28V220JX	Panasonic - ECG		
101	2	SW1, SW2	SWITCH TACT 6MM MOM SMD 100GF	B3FS-1000P	Omron		
102	1	SW3	SWITCH DIP 1-POS SLIDE SMD	CHS-01TA	Copal Electronics Inc		
103	1	U1	IC RTC 56BYTE NV RAM 3.3V 8-MSOP	DS1338U-33+	Maxim		
104	1	U10	IC, MODULE XFRMR VOIP SGL LAN 16SOIC Dec 29 BYT: Was H2019NL, have same digikey p/n. pls clarify.	H2019NL	Pulse		
105	1	U11	IC, 2A Step Down DC/DC Regulator, SOIC-8	TPS54232D	TI		
106	2	U12, U34	RELAY PWR SPDT 10A 5VDC PCB	JS1-5V	Panasonic		
107	1	U13	TVS DIODE ARRAY 4CH 5V SOT23-6	SP3050-04HTG	Littelfuse Inc		
108	5	U14, U17, U23, U24, U32	IC BUFF/DVR DL NON-INV SC706	SN74LVC2G07DCKR	TI		

109	7	U15, U16, U18, U19, U21, U22, U25	IC BUFF DL UHS O/DRAIN SC706	NC7WZ07P6X	Fairchild Semiconductor		
110	1	U2	IC VOLT SUPERVISOR 3.3V SOT23-6	TPS3808G33DBVT	Texas Instruments		
111	1	U20	IC SWITCH QUAD SPDT 16VQFN	TS3A44159RGTR	TI		
112	2	U26, U27	IC TVS ARRAY 2-LINE 300W SOT-143	SR70.TCT	Semtech		
113	3	U28, U30, U33	IC TVS ARRAY 4-LINE 5V SOT23-6	CDSOT23-SRV05-4	Bourns Inc		
114	1	U29	TVS ARRAY 8V 500W	SMDA08C	ProTek Devices		
115	1	U31	IC, DDR2 512Mb: x16 FBGA80	MT47H32M16HR-3-IT	Micron		
116	1	U35	IC 8BIT NON-INV TRANSLTR 20TSSOP	TXS0108EPWR	TI		
117	1	U4	IC, Nand Flash, 8-bit 64MB, 48-TSSOP	NAND512W3A2DN6E	Numonyx/ST Micro		
118	1	U5	IC, Processor ARM, DSP, 356MHz	OMAPL138BZWT A3	Texas Instrument		
119	1	U6	IC PWR MGMT LI-ION SYSTEMS 32QFN	TPS650250RHBR	Texas Instruments		
120	1	U7	IC BUS TRANSCVR TRI-ST SOT236	SN74LVC1T45DBVT	Texas Instruments		
121	1	U8	IC LO PWR RS-485 TXRX 8-SOIC	SN65HVD485ED	Texas Instruments		
122	1	U9	IC, Ethernet TXRX Single Chip 1-Port 2.5V/3.3V 10Mbps/100Mbps	BCM5241A1IMLG	Broadcom		
123	1	Y2	OSC 24.0000 MHZ 3.3V SMD	ASDM1-24.000MHZ-LC-T	Abracon Corporation		
124	1	Y3	CRYSTAL 32.768KHZ 12.5PF SMD	ABS10-32.768KHZ-T	Abracon Corporation		
125	1	Y4	CRYSTAL 25.0000 MHZ 18PF SMD	ABM7-25.000MHZ-D-2-Y-T	Abracon Corporation		

#### 4G Secure Control (Base)

Item	Qty	Reference	Description	Mfg. part#	Manufacturer	Status	Alternated Part
1	1	Mech	Die Cast, Bottom Body, Secure Control, 4G	714-00151-00R	Sunon		
2	1	Mech	Die Cast, Top Body, Secure Control, 4G	714-00150-00R	Sunon		
3	1	Kit	installation kit (non-wlan listed here)	842-0012x-00R	KWT		
4	1	Mech	M2 Serreted External Toothed Lock Washer	721-00105-00	KWT		
5	1	Mech	Mech, TLA Label stock, 29.5mmx63.5mm, Fasson72826, Sliver	735-4G-030-00-000	KWT		
6	1	Mech	Overlay Sets (left, center and right)	712-00229-00	KWT		
7	1	Plastics	Plastics, Cap for Non-WLAN	712-00233-00	Sunon		
8	1	Kit	Quick Start Guide	430-4G-010-10-001	KWT		
9	4	Mech	Screws, Stainless Steel, M2, 6mm, panhead, philips	720-00125-00R	KWT		
10	4	Mech	Screws, Stainless Steel, M2, 8mm, panhead, philips	720-00146-00R	KWT		
11	1	Mech	warranty Sticker (1/2" circle)	735-00116-00	KWT		

#### WLAN (Options)

Item	Qty	Reference	Description	Mfg. part#	Manufacturer	Status	Alternated Part
1	1	CT1	Tantalum, 47uF, 3528, 10V, 20%, Polymer	TCJB476M010R0070	AVX Corporation		
2	5	C1,C2,C6,C8,C14	Ceramic, 10uF, 0805, 10V, 10%, X5R	B37641C8106K062	EPCOS Inc	NU	
3	1	C3	Ceramic, 1uF, 0402, 10V, 10%	GRM155R61A105KE15D	Murata	NU	
4	4	C4,C5,C9,C13	Ceramic, 1uF, 0402, 10V, 10%	GRM155R61A105KE15D	Murata		
5	1	C7	Ceramic, 100nF, 0402, 10V, 10%	ECJ-0EB1A104K	Panasonic - ECG		
6	1	C10	Ceramic, 10uF, 0805, 10V, 10%, X5R	B37641C8106K062	EPCOS Inc		
7	2	C11,C12	Ceramic, 100nF, 0402, 10V, 10%	ECJ-0EB1A104K	Panasonic - ECG	NU	
8	1	D1	LED, Yellow, 0603, 565NM	SML-LX0603YW-TR	Lumex Opto		
9	1	J1	AMC connector, 6 GHz, SMD	A-1JB	Amphenol-RF Division		
10	2	J3,J5	Header, 100mil, 6x1	TSW-106-07-G-S	samtec	NU	

