

P90_BOM					
Item	BW P/N	Supplier P/N	Description	Ref. No.	QTY
1	6005072201	6005072201	P90 MAIN PCBA,P1,2G+WIFI		
2	6001068901	BSTB1800910	P90 MAIN PCB,P1,108*69*1.8mm		1
2*	6001069001	BSPT1800910	P90 MAIN PCB,P1,108*69*1.8mm		
3	6005067001	AC35V3	AC35V3 Module, GSM/GPRS	U1	1
4	4031001401	19-226SURSYGC/S530-A3/E2/TR8	Diode,Bi-Color led, 1.6*1.3*0.4(mm)	D2001	1
5	2001017101	GRM155R71C103KA01D	Cap,Ceramic,0402,0.01uF,+/-10%,16V,X7R	C2 C22 C32 C36 C42 C112 C126 C330 C2401	9
5*	2001017104	CC0402KRX7R9BB103	Cap,Ceramic,0402,0.01uF,+/-10%,50V,X7R		
6	2001010201	GRM155R71C223KA01D	Cap,Ceramic,0402,16V,22NF,+/-10%	C57 C86 C137 C204 C1231 C4377	6
6*	2001010203	CC0402KRX7R7BB223	Cap,Ceramic,0402,0.022uF,+/-10%,16V,X7R		
7	2001008701	GRM155R61A104KA01D	Cap,Ceramic,0402,0.1uF,+/-10%,10V,X5R	C61 C62 C66 C83 C84 C85 C402 C425 C81 C739 C2418 C2420 C1 C10 C11 C20 C53 C246 C247 C260 C1202 C1204 C1206 C1208 C1212 C1224 C1310 C71	28
8	2001002803	UMK105CG101JV-F	Cap,Ceramic,0402,100pF,+/-5%,50V,C0G	C13 C14 C15 C27 C43 C44 C46 C422 C423	9
8*	2001002804	CC0402JRNPO9BN101	Cap,Ceramic,0402,100pF,+/-5%,50V,NPO		
8*	2001002805	CL05C101JB5NNNC	Cap,Ceramic,0402,50V,100PF,+/-5%		
9	2001003101	GRM1555C1H150JA01D	Cap,Ceramic,0402,50V,15PF,+/-5%	C60	1
9*	2001003104	CC0402JRNPO9BN150	Cap,Ceramic,0402,15pF,+/-5%,50V,NPO		
10	2001008901	GRM155R61A224KE19D	Cap,Ceramic,0402,0.22uF,+/-10%,10V,X5R	C4383	1
10*	2001008903	LMK105BJ224KV-F	Cap,Ceramic,0402,0.22uF,+/-10%,10V,X5R		
10*	2001008904	CC0402KRX5R6BB224	Cap,Ceramic,0402,0.22uF,+/-10%,10V,X5R		
10*	2001008905	CL05A224KP5NNNC	Cap,Ceramic,0402,0.22uF,+/-10%,10V,X5R		
11	2001008801	GRM155R61A105KE15D	Cap,Ceramic,0402,10V,1UF,+/-10%	C7 C12 C17 C18 C23 C25 C29 C48 C52 C55 C59 C63 C111 C123 C124 C1210 C4352 C4376 C9 C82 C138 C203 C205 C1230 C1232	25
11*	2001008802	LMK105 BJ105KV-F	Cap,Ceramic 0402 X5R 1uf ±10% 10V		
11*	2001008804	CL05A105KP5NNNC	Cap,Ceramic,0402,1uF,+/-10%,10V,X5R		

12	2001017501	GRM1555C1H200JZ01D	Cap,Ceramic,0402,20pF,+/-5%,50V,C0G	C28 C31	2
13	2001005201	GRM1555C1H390JA01D	Cap,Ceramic,0402,50V,39PF,+/-5%	C45 C47	2
13*	2001005204	CC0402JRNPO9BN390	Cap,Ceramic,0402,39pF,+/-5%,50V,NPO		
14	2001004201	GRM1555C1H220JA01D	Cap,Ceramic,0402,50V,22PF,+/-5%	C101 C102 C117 C118	4
14*	2001004204	CC0402JRNPO9BN220	Cap,Ceramic,0402,22pF,+/-5%,50V,NPO		
15	2001004501	GRM1555C1H270JA01D	Cap,Ceramic,0402,50V,27PF,+/-5%	C103 C104	2
15*	2001004504	CC0402JRNPO9BN270	Cap,Ceramic,0402,27pF,+/-5%,50V,NPO		
16	2001004901	GRM1555C1H330JA01D	Cap,Ceramic,0402,50V,33PF,+/-5%	C56 C72 C97 C134 C135 C136 C250 C252 C501 C502 C1241 C1301 C1303 C1305 C1307 C4308 C4310 C4314 C601	19
16*	2001004904	CC0402JRNPO9BN330	Cap,Ceramic,0402,33pF,+/-5%,50V,NPO		
16*	2001004905	CL05C330JB5NNNC	Cap,Ceramic,0402,50V,33PF,+/-5%		
17	2001005601	GRM1555C1H470JA01D	Cap,Ceramic,0402,50V,47PF,+/-5%	C40 C41	2
17*	2001005602	CC0402JRNPO9BN470	Cap,Ceramic,0402,47pF,+/-5%,50V,NPO		
18	2001044001	GRM1555C1H201JA01D	Cap,Ceramic,0402,50V,200PF,+/-5%	C121 C122	2
18*	2001044101	CC0402JRNPO9BN201	Cap,Ceramic,0402,200pF,+/-5%,50V,NPO		
19	2001014001	GRM188R60J106ME47D	Cap,Ceramic,0603,6.3V,10UF,+/-20%	C5 C8 C21 C26 C30 C34 C35 C37 C38 C49 C51 C54 C69 C79 C223 C1201 C1203 C4227 C4379 C64	20
19*	2001014002	CV105X5R106M06AT	Cap,Ceramic,0603,10uF,+/-20%,6.3V,X5R		
19*	2001014003	CL10A106MQ8NNNC	Cap,Ceramic,0603,10uF,+/-20%,6.3V,X5R		
20	2001014201	GRM188R60J475KE19D	Cap,Ceramic,0603,6.3V,4.7UF,+/-1%,X5R	C253 C424 C70	3
21	2001015801	GRM219R60J226ME47D	Cap,Ceramic,0805,6.3V,22UF,0.85mm,+/-20%	C238	1
21*	2001015803	JMK212BJ226MD-T	Cap,Ceramic,:0805 X5R 22uf ±20% 6.3V T=0.85		
21*	2001015805	JMK212ABJ226MD-T	Cap,Ceramic,:0805 X5R 22uf ±20% 6.3V T=0.85		
22	2001005001	GRM1555C1H331JA01D	Cap,Ceramic,0402,50V,330PF,+/-5%	C332	1
23	5005021001	FH34SRJ-12S-0.5SH(50)	12pin ZIF CONNECTER,1.0H,0.5PITCH,Side entry, rotary lock style	CN6	1
28	4030005601	ESD9N5BU	1-Line, Bi-directional, Ultra-low Capacitance,Transient Voltage Suppressor,VBR=7V(MIN),Package:DFN1006-2L ,1*0.6*0.5mm	T1 T2 T1201 T1203	4
29	6005062101	ESP-07S	802.11 b/g/n Wi-Fi Module, 17*16*3(mm)	U901	1

30	3002003001	SDWL2012C56NJSTF	56nH,0805,500mA,Qmin55	L5 L6	2
30*	3002003406	CS0805-56NJ-S	56nH,0805,500mA,Qmin60		
31	4019001901	LC1463CA5TR33	LDO,3.3V 300mA Single Output,SC-70-5	U4	1
31*	4019004001	SGM2019-3.3YC5G/TR	3.3V LDO, SC70		
34	4002003801	MH1608	NFC IC,QFN32	U7	1
35	4001007601	MH1902-BGA-121	32-bit RISC Core(ARMv7-M),96/72Mh,BGA121,8*8*1.35mm	U2402	1
36	5002008601	UB029-5P-06NF	5pin Micro usb , on board type , 4-dip , 1.8A	CN1601	1
37	4030001301	MM3Z16VT1G	Diode, Zener, Vz=16.2V	Z2	1
37*	4030001302	BZT52C16S	Diode, Zener, Vz=16.2V		
39	4013016901	C3SB27.1200F10B1ER	Crystal, 27.12MHz, +/-10ppm, 10pF, 3.2*2.5*0.65(mm)	X1	1
41	3003001501	PSE25201B-2R2MS-39	2.2µH ± 20% 2.5x2.0x1.2,2A	L203	1
41*	3003007301	VLS252010HBX-2R2M-1	Power Inductor, 2.2µH, ± 20%, 0.12ohm, 1.76A, 2.5x2.0x1.0mm		
41*	3003001502	PCSB25201T-2R2MS	2.2µH ± 20% 2.5x2.0x1.0 , I _{dc} =1.8A max, I _{sat} =2.2A max		
43	4030001501	RB520S-30TE61	Diode, Schottky, Vr=30V, Io=200mA	D1 D9	2
43*	4030001505	RB520S-30	Diode, Schottky, Vr=30v, Io=200mA		
44	1001033501	RC0402JR-070RL	res,0,+/-5%,0402,1/16W	R4 R13 R17 R18 R22 R23 R24 R29 R35 R37 R42 R47 R49 R51 R54 R58 R59 R68 R69 R75 R112 R118 R119 R120 R121 R122 R150 R160 R162 R164 R201 R202 R232 R239 R250 R266 R269 R274 R276 R299 R343 R450 R772 R773 R1224 R1261 R1263 R3910 R3912 R4204 R4208 R4209 R4215 R4216 R4220 R4221 R4239 R4329 R4381 R95 R98 R97 R96	63
45	1001073201	RC0603JR-070RL	res,0,+/-5%,0603,1/10W	R50 R66 R67 R71 R211 R937 R1260 R4207	8
46	1001038401	RC0402JR-07100RL	res,100,+/-5%,0402,1/16W	R45 R46 R52 R53 R2801 R2803 R2811	7
47	1001062901	RC0402FR-07100KL	res,100K,+/-1%,0402,1/16W	R238 R116 R123 R128 R233 R267 R272 R739 R1230 R2451 R4342 R4376 R60	13
48	1001063301	RC0402FR-07150KL	res,150K,+/-1%,0402,1/16W	R4222	1
49	1001043201	RC0402JR-0710KL	res,10K,+/-5%,0402,1/16W	R2 R34 R43 R78 R79 R245 R1310 R1374 R4217 R4341 R4343	11

51	1001049801	RC0402JR-0710ML	res,10M,+/-5%,0402,1/16W	R55 R61 R62 R76 R1201 R1210 R1212 R1214 R1216	9
51*	1001049802	0402WGJ0106TCE	res,10M,+/-5%,0402,1/16W		
55	1001059801	RC0402FR-075K1L	res,5K1,+/-1%,0402,1/16W	R82	1
56	1001038001	RC0402JR-0768RL	res,68,+/-5%,0402,1/16W	R7 R8 R12 R31 R32 R87 R101 R102 R103 R104 R105 R106 R107 R108 R109 R110 R111 R117 R401	19
57	1001040601	RC0402JR-07820RL	res,820,+/-5%,0402,1/16W	R81	1
58	1001065201	RC0402FR-07910KL	res,910K,+/-1%,0402,1/16W	R234	1
59	4032000801	S9013	SOT-23 Plastic-Encapsulate Transistors, NPN,Vceo=25V,Ic=500mA	Q205 Q2	2
60	4020001501	SGM6605-ADJYN6G/TR	DC-DC, Step-Up Converter with 1.1A Switch, Io=500mA, SOT23-6L,DC-DC	U203	1
62	4021001601	TFX-02CL1205001	Surface mount type crystal unit 32.768KHZ,12.5PF,20PPM	Y1	1
62*	4021001901	Q13FC1350000400	FC-135 32.768 KHz 12.5pF +/-20PPM		
64	4005011401	W25Q32JVSSIQ	3V 32M-BIT SERIAL FLASH MEMORY WITH DUAL/QUAD SPI & QPI,SOIC-8	U2	1
66	5007073511	Micky_USB Holder_0802	Micky_USB Holder_0802	H501	1
67	5001006701	A2501LF-03A	Batt conn,3pin,pitch=2.54mm,h=8.3mm	J16	1
71	3004004401	BLM15PD121SN1	Bead,120ohm@100MHz,1300mA,0402	E201 E250 E1201 E4201	4
71*	3004004402	UPZ1005D121-1R3TF	Bead,120ohm@100MHz,1300mA,0402		
72	4019005701	RP110N331D-TR-FE	ultra-low power consumption LDO, SOT23-5, 3.3V,2.9*2.8*1.3mm ,input 6Vmax	U2404	1
73	2001002701	GRM1555C1H100JA01D	Cap,Ceramic,0402,50V,10PF,+/-5%	C65	1
73*	2001002704	CC0402JRNPO9BN100	Cap,Ceramic,0402,10pF,+/-5%,50V,NPO		
75	2001011401	GRM155R71H102KA01D	Cap,Ceramic,0402,1000pF,+/-10%,50V,X7R	C255 C108 C105 C128	4
75*	2001011404	GRM155R71H102KA88D	Cap,Ceramic,0402,50V,1NF,+/-10%		
75*	2001011405	CC0402KRX7R9BB102	Cap,Ceramic,0402,1NF,+/-10%,50V,X7R		
75*	2001011406	CL05B102KB5NNNC	Cap,Ceramic,0402,1000pF,+/-10%,50V,X7R		
76	5005019201	50552-02401-001	Zif conn,24pin,0.5pitch,h=5.0mm,SV	CN3	1

77	4031002401	AOT-0603BL31A-N0-N-3	LED , single blue,0.8*1.6*0.4mm	D3902	1
77*	4031005401	HAM-C193TBKT-0A	LED , single blue,0.8*1.6*0.58mm		
78	4031002501	AOT-0603GS31A-Z0-N-3	LED , single green,0.8*1.6*0.4mm	D3901	1
78*	4031005501	HAM-C193TGKT-0A	LED , single green,0.8*1.6*0.58mm		
79	4031002601	AOT-0603RE31A-N0-N-3	LED , single red,0.8*1.6*0.4mm	D3903	1
79*	4031005201	HAM-C193KRKT	LED , single red,0.8*1.6*0.58mm		
80	4031002801	AOT-0603YL31A-N0-N-3	LED , single Yellow ,0.8*1.6*0.4mm	D3904	1
80*	4031005301	HAM-C193KSKT-0A	LED , single yellow,0.8*1.6*0.58mm		
81	1004002901	AVLC18S02015	MULTILAYER CHIP VARISTOR	VAR3 VAR4 VAR5 VAR6 VAR7 VAR8 VAR410 R64	8
82	4030000104	1PS79SB10	Diode,Schottky, Vr=30V, Vf=0.4V(typ)@If=10mAdc	D101 D209	2
83	2001015001	GRM188R71C104KA01D	Cap,Ceramic,0603,0.1UF,+/-10%,16V,X7R	C4342	1
83*	2001015002	CL10B104K08NNNC	Cap,Ceramic,0603,16V,0.1UF,+/-10%		
84	2001031201	GRM188R61C225KE15D	Cap,Ceramic,0603,2.2UF,+/-10%,16V,X5R	C4381	1
84*	2001031202	CL10A225K08NNNC	Cap,Ceramic,0603,2.2UF,+/-10%,16V,X5R		
85	2001030801	GRM21BR61C106KE15L	Cap,Ceramic,0805,10uF,+/-10%,16V,X5R,T=1.25mm	C4340 C4380 C4382 C4384	4
85*	2001030803	CL21A106KOFNNNE	Cap,Ceramic,0805,10uF,+/-10%,16V,X5R,T=1.25mm		
86	4013006901	DRV8833RTYR	dual channel, H bridge motor driver, QFN,16 pin, 4.15*4.15*0.8mm	U4301	1
86*	4013015901	MP6507GR##	2.7V-to-15V, 700mA, Bipolar Stepper-Motor Driver with Integrated MOSFETs, QFN,16 pin, 4.1*4.1*1.0mm		
87	4032000101	DTC114TM3T5G	Transistor, NPN, Vceo=50V, Ic=100mA	Q4302	1
87*	4032000102	DTC114TM	Transistor, NPN, Vceo=50V, Ic=100mA		
87*	4032000201	DTC114EM3T5G	Transistor, NPN, Vceo=50V, Ic=100mA, R1=R2=10K		
88	5004001301	ECT818000157	USS RF conn mate height 1.5mm	CN10	1
88*	5004004601	8522A0000A00	USS RF conn mate height 1.5mm		
89	6007045401	6007045401	BSTB1700920_MESH_PCBA	MESHPCB	1
90	5005021601	50009-03001-002	B-B conn , rec,30pin,0.4pitch,mate 2.0H	CN1 CN5	2
91	4019001803	SGM2019-1.2YC5G/TR	LDO,1.2V 300mA Single Output,SC-70-5	U1202	1

92	4019002004	SGM2019-2.8YC5G/TR	LDO,2.8V 300mA Single Output,SC-70-5	U201	1
93	4019001302	LC1463CB5ATR33	LDO,3.3V 300mA Single Output,SOT-23-5	U4302	1
93*	4019001301	RP1202-33GB	LDO,3.3V 300mA Single Output,SOT23-5L		
93*	4019004401	SGM2019-3.3YN5G/TR	Low Power, Low Dropout, fixed 3.3V,300mA LDO,input range:2.5-5.5V,SOT23-5		
95	5003010101	MUP-C879	IC Holder,8 pin , SMT,56*30.0*3.04h	CN403	1
97	4013003901	Q22FA23V0003500	Crystal, 12MHz, CL=18pf, +/-20ppm, 3.2*2.5*0.7(mm)	Y2	1
97*	4013005601	E3SB12.0000F16S11	Crystal, 12MHz, +/-10ppm, 16pF, 3.2*2.5*0.65(mm)		
97*	4013016801	C3SB12.0000F16B1ER	Crystal, 12MHz, +/-10ppm, 16pF, 3.2*2.5*0.65(mm)		
98	1001091101	RC0805FR-071R2L	res,1.2,+/-1%,0805,1/8W	R2853 R2855 R4326 R4328	4
99	1001043601	RC0402JR-0715KL	res,15K,+/-5%,0402,1/16W	R428	1
100	1001039001	RC0402JR-07180RL	res,180,+/-5%,0402,1/16W	R425	1
101	1001040801	RC0402JR-071KL	res,1K,+/-5%,0402,1/16W	R247	1
101*	1001040802	0402WGJ0102TCE	res,1K,+/-5%,0402,1/16W		
102	1001048001	RC0402JR-071ML	res,1M,+/-5%,0402,1/16W	R91 R86	2
102*	1001048002	0402WGJ0105TCE	res,1M,+/-5%,0402,1/16W		
103	1001061301	RC0402FR-0722KL	res,22K,+/-1%,0402,1/16W	R4382	1
104	1001036801	RC0402JR-0722RL	res,22,+/-5%,0402,1/16W	R421 R423 R4213 R4214 R4235	5
104*	1001097201	RES-22-5-0402-16	res,22,+/-5%,0402,1/16W		
105	1001039201	RC0402JR-07220R	res,220,+/-5%,0402,1/16W	R4370	1
106	1001041601	RC0402JR-072K2L	res,2K2,+/-5%,0402,1/16W	R4377	1
107	1001039501	RC0402JR-07300RL	res,300,+/-5%,0402,1/16W	R422	1
108	1001061601	RC0402FR-0730KL	res,30K,+/-1%,0402,1/16W	R4378	1
109	1001037201	RC0402JR-0733RL	res,33,+/-5%,0402,1/16W	R510 R520 R2805 R4201	4
109*	1001037202	0402WGJ0330TCE	res,33,+/-5%,0402,1/16W		
110	1001046801	RC0402JR-07330KL	res,330K,+/-5%,0402,1/16W	R431	1
111	1001039601	RC0402JR-07330RL	res,330,+/-5%,0402,1/16W	R1301 R1311 R1313 R1315 R1 R73 R903 R915 R1124 R3610 R9011	11

111*	1001056901	RC0402FR-07330RL	res,330,+/-1%,0402,1/16W		
111*	1001039602	0402WJ0331TCE	res,330,+/-5%,0402,1/16W		
112	1001047201	RC0402JR-07470KL	res,470K,+/-5%,0402,1/16W	R1262 R4383	2
113	1001064601	RC0402FR-07510KL	res,510K,+/-1%,0402,1/16W	R92 R4224	2
114	1001044901	RC0402JR-0751KL	res,51K,+/-5%,0402,1/16W	R427 R429	2
115	1001037801	RC0402JR-0756RL	res,56,+/-5%,0402,1/16W	R424	1
116	5009002901	JS-CL-1004B	TONGS,SMT,2.9*1.54*1.63H	CN1325 CN1327	2
117	4036001601	TPS22908YZTR	Ultra Small, Low-Input Voltage, Low RON Load Switch,Ultra Small CSP-4 Package 0.9 mm × 0.9 mm,0.5-mm Pitch, 0.5-mm Height	U712	1
118	4036002301	UM3670A	Analog Switch, 1.8V~5.5V, Dual DPDT, 300MHz BW, Ron 5ohm, QFN16, 2.65x1.85x0.65mm	U302	1
119	4034001601	WPM1485-6/TR	Transister, P channel MOSFET, Vds=-12V, Vgs=12V, Id=-7.4A,2*2*0.75mm	Q4301	1
120	4006000601	XPT7603	I2C Interface , 4 line touch controller , MSOP10 , 3*4.9*1.12	U6	1
122	5008005001	2420-0236CNG0MU01	Pin conn, rec,36pin,1.27mm pitch, mate h=3.8mm	CN2	1
123	4013012001	NCN8025AMNTXG	Compact SMART CARD Interface IC,QFN24,4*4*1mm	U4201	1
124	4008000701	AW8736FCR	High TDD noise Suppress , low EMI and large volume Class-K audio PA , 2*2*0.75mm 16-Pin FC-16	U8	1
125	2001008601	GRM155R60J225ME15D	Cap,Ceramic,0402,6.3V,2.2UF,+/-20%	C77 C78	2
125*	2001008602	JMK105BJ225MV-F	Cap,Ceramic,0402,2.2uF,+/-20%,6.3V,X5R		
125*	2001008604	CL05A225MQ5NSNC	Cap,Ceramic,0402,6.3V,2.2UF,+/-20%,X5R		
126	2001011801	GRM155R71H221KA01D	Cap,Ceramic,0402,220pF,+/-10%,50V,X7R	C75	1
127	2001012501	GRM155R71H472KA01D	Cap,Ceramic,0402,50V,4.7NF,+/-10%	C73 C74	2
127*	2001012502	CC0402KRX7R9BB472	Cap,Ceramic,0402,4700pF,+/-10%,50V,X7R		
127*	2001012503	CL05B472KB5NNNC	Cap,Ceramic,0402,4700pF,+/-10%,50V,X7R		
128	4013002601	NLSX4378FCT1G	4-Bit 20 Mb/s Dual-Supply Level Translator,2.02*1.54*0.66mm	U206	1
128*	4013004801	UM3204H	4-Bit Bidirectional voltage-level translator for open-drain and push-pull application		
129	1001062001	RC0402FR-0743KL	res,43K,+/-1%,0402,1/16W	R56 R57	2

129*	1001062002	0402WGF4302TCE	res,43K,+/-1%,0402,1/16W		
130	5005020801	50278-00401-002	WTB connector , 4pin , 1.25pitch , 1.9H,Side entry	CN301	1