

WINKLER INDUSTRIAL CO., LTD.

Model: Marine Transceiver
 Customer: Standard
 Product:
 Standard:

B.O.M No.
 Rev : S0
 Issue Date : 31-MAR-04

ELECTRONIC ENGINEER: HAM YIN CHECKED BY: ☐☐☐
 MECHANICAL ENGINEER: Tony.Du APPROVED BY:

#1 ELECTRONICS COMPONENTS (1) RECEIVER SECTION												
	ITEM	P/N / DWG No.	TYPE	REFERENCE	APP'D MFC	QTY	HK\$	VENDOR	CODE	REQ'DQTY	ISSUE QTY	FOLLOW QTY
CH	1-1	311-6000003-2B1	Main PCB For Marine Transceiver ,137x83,FR4, T=1.6mm,D/S,T/P,REV:1	MAIN BOARD		1						
	1-2	305-S1T3361-200	IC,S1T3361D01-S0T0 'Samsung' 16SOP	U1 U2		2						
	1-3	305-35H1516-100	IC,RF Power Module,RA35H1516M, Mitsubishi	U11		1						
	1-4	305-JM2211M-100	IC, NJM2211M, DMP14, JRC	U4		1						
	1-5	305-M3403AM-100	IC, NJM3403AM. SOP-14,JRC	U7		1						
	1-6	305-JM78M08-100	IC, NJM78M08DLIA,TO-252, JRC	U8		1						
	1-7	305-JM78M05-100	IC, NJM78M05DLIA,TO-252, JRC	U9		1						
	1-8	305-LMX1511-100	IC, LMX1511TM, SSOP-20, National Semiconductor	U3		1						
CH	1-9	305-LTV354T-100	IC, OPTO, LTV-354T, LITEON	U10		1						
	1-10	305-TDA2003-100	IC, TDA2003, SIG	U6		1						
	1-11	305-JM2904M-100	IC, NJM2904M DMP8, JRC	U5		1						
	1-12	303-6352LT1-100	UHF mixer Diode, MMBD352LT1,SMT, ON	D2 D3 D201 D202		4						
	1-13	303-2KDS181-100	Switch Diode, KDS181, SMT, KEC	D6 D15 D305 D401 D403		5						
	1-14	303-21SS314-100	VHF Band Switch Diode, 1SS314,Toshiba	D1 D1A		2						
	1-15	303-2KDS184-100	Switch Diode, KDS184, SMT, KEC	D303		1						
	1-16	303-2KDS226-100	Switch Diode, KDS226, SMT, KEC	D7 D205 D402		3						
	1-17	303-21SS268-100	VHF Band Switch Diode, 1SS268, SMT,Toshiba	D9		1						
	1-18	303-40BB133-100	VHF Variable Cap Diode, BB133 Philips	VD1, VD2		2						
	1-19	303-1GW4007-100	Rectifier Diode,1A GW4007 SMT 'DC'	D405 D406		2						
	1-20	303-6301LT1-100	VHF Detector Diode, MMBD301LT1, SMT,ON	D301 D302		2						
	1-21	304-2SK302G-053	FET,Transistor, 2SK302G , SOT-23,Toshiba	Q1 Q201 Q502		3						
	1-22	304-TC9018S-H01	Transistor, KTC9018S-H, SOT-23, EBC, KEC	Q2 Q202 Q203 Q204 Q303		5						
	1-23	304-SC1623L-604	Transistor,NPN,2SC1623-L6,SOT-23,'NEC'	Q4 Q5 Q205 Q306 Q402		5						
	1-24	304-3356R24-0A4	Transistor,NPN,2SC3356R24,SOT-23 'NEC'	Q304 Q501 Q503		3						
	1-25	304-2SC4226-004	Transistor,NPN, 2SC4226, 'NEC'	Q302		1						
	1-26	304-KTA1001-041	Transistor, PNP, KTA1001, SOT89, KEC	Q403		1						
	1-27	304-2SA812M-604	Transistor,PNP,2SA812-M6,SOT-23,'NEC'	Q305 Q307 Q401 Q404		4						
	1-28	304-KRC641T-0A1	Composite Transistor, KRC641. SOT-23.KEC	Q406		1						
	1-29	304-KRA521T-0A1	Composite Transistor, KRA521T. SOT-23.KEC	Q405		1						
	1-30	300-0500001-003	Chip Res,0603, 0 Ohm,1/16W,+/-5%,Tape Pack	R3 R58 R201		3						
	1-31	300-0705081-033	Chip Res, 1206, 0.5 Ohm, 1/4W, +/-5%, Tape	R52 R53		2						
	1-32	300-0502291-003	Chip Res, 0603,2.2 Ohm,1/16W,+/-5% Tape Pack	R42 R44		2						
	1-33	300-0504791-003	Chip Res, 0603,4.7 Ohm,1/16W,+/-5% Tape Pack	R59		1						
	1-34	300-0505691-003	Chip Res, 0603, 5.6 Ohm,1/16W,+/-5% Tape Pack	R412		1						
CH	1-35	300-0501001-003	Chip Res,0603,10 Ohm,1/16W,+/-5%,Tape Pack	R10A R212 C24A		3						
	1-36	300-0502201-003	Chip Res, 0603,22 Ohm,1/16W,+/-5% Tape Pack	R51 R312 R316		3						
	1-37	300-0503901-003	Chip Res, 0603,39 Ohm,1/16W,+/-5% Tape Pack	R41		2						
	1-38	300-0504701-003	Chip Res 0603 47 Ohm 1/16W +/-5% Tape	R8 R15 R206 R503 R509 R510		6						

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ADD	1-39	300-0506801-003	Chip Res 0603 68 Ohm 1/16W +/-5% Tape	R319		1						
	1-40	300-0501011-003	Chip Res, 0603,100 Ohm,1/16W,+/-5% Tape Pack	R50 R204 R224 R228 R5 R217 R313 R209 R331 R408 R409 R410 R413 R502 R508 R332 R335		17						
	1-41	300-0501811-003	Chip Res, 0603,180 Ohm,1/16W,+/-5% Tape Pack	R219		1						
	1-42	300-0502211-003	Chip Res, 0603,220 Ohm,1/16W,+/-5% Tape Pack	R43 R329 R330 R404 R49 R205 R227		7						
	1-43	300-0503911-003	Chip Res, 0603, 390 Ohm, 1/16W, +/-5% Tape	R320 R402		2						
	1-44	300-0505611-003	Chip Res, 0603, 560 Ohm,1/16W,+/-5% Tape Pack	R417		1						
	1-45	300-0506811-003	Chip Res, 0603, 680 Ohm, 1/16W, +/-5% Tape	R315		1						
	1-46	300-0501021-003	Chip Res, 0603, 1K, 1/16W,+/-5% Tape Pack	R48 R411 R504		3						
	1-47	300-0501221-003	Chip Res, 0603, 1.2K,1/16W,+/-5% Tape Pack	R6 R207 R244		3						
	1-48	300-0501521-003	Chip Res, 0603, 1.5K,1/16W,+/-5% Tape Pack	R37		1						
	1-49	300-0501821-003	Chip Res, 0603, 1.8K,1/16W,+/-5%,Tape Pack	R12		1						
CH	1-50	300-0502221-003	Chip Res, 0603, 2.2K,1/16W,+/-5% Tape Pack	R20 R215 R311 R403 R35 R57 R415 R416 R420		9						
	1-51	300-0503321-003	Chip Res, 0603, 3.3K,1/16W,+/-5% Tape Pack	R213 R314 R401		3						
	1-52	300-0503921-003	Chip Res, 0603, 3.9K,1/16W,+/-5% Tape Pack	R214		1						
	1-53	300-0504721-003	Chip Res, 0603,4.7K,1/16W,+/-5% Tape Pack	R2 R4 R45 R46 R47 R54 R56 R222 R309 R333 R334 R419 R505		13						
	1-54	300-0506821-003	Chip Res, 0603, 6.8K,1/16W,+/-5%,Tape Pack	R11 R225 R220 R308		4						
	1-55	300-0501031-003	Chip Res, 0603, 10K,1/16W,+/-5% Tape Pack	R9 R33 R36 R100 R210 R229 R232 R234 R239 R321 R324 R327 R328 R405 R406 R407 R506		17						
ADD	1-56	300-0501231-003	Chip Res, 0603, 12K,1/16W,+/-5% Tape Pack	R19A		1						
	1-57	300-0501531-003	Chip Res, 0603, 15K,1/16W,+/-5% Tape Pack	R226 R310 R230 R301		4						
	1-58	300-0501831-003	Chip Res, 0603, 18K,1/16W,+/-5% Tape Pack	R14 R221		2						
CH	1-59	300-9620021-012	Chip Res(High Precision),0603,20K,1/10W,+/-2%,Tape Pack	R245		1						
	1-60	300-0502231-003	Chip Res, 0603, 22K,1/16W,+/-5% Tape Pack	R16 R326 R237 R238 R38 R305 R337		7						
	1-61	300-0503331-003	Chip Res, 0603, 33K,1/16W,+/-5% Tape Pack	R10 R211 R236 R303		4						
	1-62	300-0504731-003	Chip Res, 0603, 47K,1/16W,+/-5% Tape Pack	R1 R24 R25 R40 R243 R302 R304 R414 R501		10						
	1-63	300-0506831-003	Chip Res,0603,68K, 1/16W,+/-5%,Tape Pack	R18 R307 R336		3						
	1-64	300-0501041-003	Chip Res, 0603, 100K,1/16W,+/-5% Tape Pack	R223 R235 R242 R246 R507 R306		6						
ADD	1-65											
	1-66	300-0501541-003	Chip Res, 0603, 150K,1/16W,+/-5% Tape Pack	R216 R34		2						
	1-67	300-0502241-003	Chip Res, 0603, 220K,1/16W,+/-5% Tape Pack	R7 R13 R39 R208 R231R233 R325		7						
	1-68	300-0503341-003	Chip Res, 0603, 330K,1/16W,+/-5% Tape Pack	R218		1						
	1-69	300-0503941-003	Chip Res, 0603, 390K,1/16W,+/-5% Tape Pack	R55		1						

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	1-70	300-0504741-003	Chip Res, 0603, 470K,1/16W,+/-5% Tape Pack	R19 R240		2						
	1-71	300-0505141-003	Chip Res, 0603, 510K,1/16W,+/-5% Tape Pack	R241		1						
DEL	1-72											
	1-73	328-9901031-002	Trimmer Resistor, 10K,SMT,EVM3YSX50B14, 3X3mm,Panasonic	VR1		1						
	1-74	328-9902021-012	Trimmer Resistor, 2K,SMT,EVM3YSX50B23, 3X3mm,Panasonic	VR3		1						
	1-75	328-9903021-022	Trimmer Resistor, 3K,SMT,EVM3YSX50B33, 3X3mm,Panasonic	VR2		1						
	1-76	301-3115081-053	Chip Cap, 0603, 0.5pF,50V,+/-10%,NPO,Tape pack	C18 C21 C17 C206 C510		5						
	1-77	301-3111091-056	Chip Cap, 0603,1pF,50V,0.25pF,NPO,Tape pack	C75 C330 C331 C507		4						
		301-3115091-056	Chip Cap, 0603,5pF,50V,0.25pF,NPO,Tape pack	C12		1						
	1-78	301-3115091-086	Chip Cap, 0603, 5pF,100V,0.25pF,NPO,Tape pack	C3		1						
	1-79	301-3114091-056	Chip Cap, 0603, 4pF,50V,0.25pF,NPO,Tape pack	C26 C215		2						
	1-80	301-3111891-056	Chip Cap, 0603, 1.8pF,50V,0.25pF,NPO,Tape pack			1						
	1-81	301-3117091-056	Chip Cap, 0603, 7pF,50V,0.25pF,NPO,Tape pack	C19		1						
		301-3117591-056	Chip Cap, 0603, 7.5pF,50V,0.25pF,NPO,Tape pack	C506		1						
	1-82	301-3118091-053	Chip Cap, 0603, 8pF,50V,+/-10%,NPO,Tape pack	C20 C76		2						
	1-83	301-3119091-053	Chip Cap, 0603, 9pF,50V+/-10%,NPO,Tape pack	C74 C208		2						
	1-84	301-3111001-053	Chip Cap, 0603, 10pF,50V,+/-10%,NPO,Tape pack	C24 C81 C95 C211 C502 C508 C509 C201 C312 C23		10						
	1-85	301-3111201-053	Chip Cap, 0603, 12pF,50V,+/-10%,NPO,Tape Pack	C203 C245 C15		3						
	1-86	301-3111501-053	Chip Cap, 0603, 15pF,50V+/-10%,NPO,Tape pack	C243 C212 C239		3						
	1-87	301-3111801-053	Chip Cap, 0603,18pF,50V,+/-10%,NPO,Tape Pack	C311 C318A		2						
	1-88	301-3112201-053	Chip Cap, 0603, 22pF,50V+/-10%,NPO,Tape pack	C13 C80 C307 C310 C407 C318		6						
		301-3112501-053	Chip Cap,0603,25pF,50V,+/-10%,NPO,Tape Pack	C29		1						
	1-89	301-3112701-053	Chip Cap,0603,27pF,50V,+/-10%,NPO,Tape Pack	C220 C241		2						
	1-90	301-3113501-053	Chip Cap, 0603,35pF,50V+/-10%,NPO,Tape pack	C408		1						
	1-91	301-3113301-053	Chip Cap, 0603,33pF,50V+/-10%,NPO,Tape pack	C219		1						
	1-92	301-3113901-053	Chip Cap, 0603,39pF,50V+/-10%,NPO,Tape pack	C25 C30		2						
	1-93	301-3114701-053	Chip Cap, 0603, 47pF,50V,+/-10%,NPO,Tape pack	C240 C503 C27 C217		4						
CH	1-94	301-3115601-053	Chip Cap, 0603, 56pF,50V,+/-10%,NPO,Tape pack	C213		1						
	1-95	301-3111011-053	Chip Cap, 0603,100pF,50V+/-10%,NPO,Tape pack	C22 C207 C505 C513		4						
	1-96	301-3102211-053	Chip Cap, 0603, 220pF,50V,+/-10%,X7R,Tape Pack	C33		1						
	1-97	301-3123311-043	Chip Cap, 0603, 330pF,25V,+/-10%,X7R,Tape Pack	C227 C238		2						
	1-98	301-3124711-043	Chip Cap, 0603, 470pF, 25V, +/-10%,X7RTape	C34 C410 C413 C414 C415 C431 C432 C433 C435--C451 C247 C303 C434		28						
	1-99	301-3121021-043	Chip Cap, 0603, 0.001uF,25V,+/-10%,X7R,Tape pack	C28 C315 C316 C317 C319 C320 C321 C323 C333 C416 C418 C501 C511 C512 C514 C35 C40 C77 C43 C79 C216 C218 C229 C308 C66 C67 C55		27						
	1-100	301-3122221-043	Chip Cap, 0603, 0.0022uF, 25V, +/-10%,X7R, Tape	C255 C302 C304		3						
	1-101	301-3122721-043	Chip Cap, 0603, 0.0027uF, 25V, +/-10%,X7R Tape	C237		1						
	1-102	301-3123321-043	Chip Cap, 0603, 0.0033uF, 25V, +/-10%,X7R, Tape	C226 C228 C235		3						

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	1-103	301-3124721-043	Chip Cap, 0603, 0.0047uF,25V,+/-10%,X7RTape pack	C234 C236 C401 C64		4						
	1-104	301-3121031-043	Chip Cap, 0603, 0.01uF,25V,+/-10%,X7R,Tape pack	C41 C44 C38 C60 C78 C82 C205 C209 C222 C232 C233 C242 C246 C249 C328 C329 C405 C411 C419 C420 C425 C504 C515 C336 C337 C334 C253 C429 C430		29						
	1-105	301-3125611-043	Chip Cap, 0603, 560pF,25V,+/-10%,X7R,Tape pack	C301		1						
	1-106	301-3125631-043	Chip Cap, 0603, 0.056uF,25V,+/-10%,X7R,Tape pack	C46		1						
	1-107	301-3101041-044	Chip Cap, 0603, 0.1uF,25V,+/-20%,Tape pack	C31 C32 C37 C68 C70 C72 C84 C85 C214 C224 C225 C230 C250 C251 C254 C403 C421 C427 C301A C332 C63 C65 C48 C62		24						
	1-108	301-3104741-044	Chip Cap, 0603, 0.47uF, 25V,+/-20%,Tape pack	C36		1						
	1-109	301-3101051-044	Chip Cap,0603,1uF,25V,+/-20%,Tape	C53 C83 C89 C306		4						
CH	1-110	301-5002730-042	Mylar Cap, 0.027uF, 25V, +/-5%	C252		1						
	1-111	301-4005640-184	Tantalum Cap, 0.56uF, 35V, ±20%	C404		1						
	1-112	301-4302251-034	Tan Cap, 1206,SMT, 2.2uF, 16V, ±20%	C87		1						
	1-113	301-4304751-034	Tan Cap, 1206,SMT, 4.7uF, 16V, ±20%	C231 C325		2						
	1-114	301-4301061-034	Tan Cap, 1206,SMT, 10uF, 16V, ±20%	C47 C90 C314 C326 C402 C409 C516		7						
	1-115	301-0053300-044	E Cap, D5x11, 33uF, 25V, 20%	C324		3						
	1-116	301-0632210-044	E Cap, D8x16, 220uF, 25V, +/-20%	C424		1						
CH	1-117	301-0661020-044	E Cap, D10x17, 1000uF, 25V, ±20%	C417		1						
	1-118	301-0634710-045	E Cap, D8x16, 470uF, 25V, +80-20%	C71		1						
	1-119	301-0051010-034	E Cap, D5x11,100uF, 16V, +/-20%	C 39 C42 C61 C69 C73 C210 C221 C248 C406 C426 C428		11						
	1-120	340-0011001-440	Trimmer Cap,ECRKN010C61 D3.2x4.5,10pF+/-2%, Panasonic	VC1 VC2		2						
	1-121	302-2001011-01J	SMT Coil CCSP0603C-R10J,100nH +/-5%,COILS	L504		1						
	1-122	302-2001511-01J	SMT Coil CCSP0603C-R15J,150nH +/-5%COILS	L16		1						
	1-123	302-2004701-00K	SMT Coil CCSP0805C- 47NK,47nH +/-10%, COIL	L9 L11		2						
ADD	1-123A	302-2004701-01K	SMT Coil CCSP0603C- 47NK,47nH +/-10%, COIL	L2		1						
	1-124	302-2002221-00K	SMT Coil CCSP0805F-2R2K,2.2uH +/-10%, COIL	L7 L8 L13 L501 L502		5						
	1-125	302-2001021-00J	SMT Coil CCSP0805F-1R0J,1uH +/-5%, COIL	L6 L14 L503		3						
ADD	1-126	302-2006811-00K	SMT Coil CCSP0805C- R68K,680nH +/-10%, COIL	L15		1						
	1-127	302-3006020-055	Spring Coil,SMT, 0.55x2.0x6R	L1		1						
ADD	1-128	302-3110016-055	Spring Coil,SMT,0.55x1.6x10L	L3		1						
	1-129	302-3010016-055	Spring Coil,SMT,0.55x1.6x10R	L4		1						
	1-130	302-3007028-055	Spring Coil,SMT, 0.55x2.8x7R	L5		1						
	1-131	302-3010550-100	Spring Coil,RV Type,T10.5xID5.0xWD1.0mm, Han Telecom	L202 L203		2						
	1-132	302-6876009-005	RFT Coil, 5mm, BFC5-876009	T501		1						
	1-133	302-6876008-005	RFT Coil, 5mm, BFC5-876008	T1		1						
	1-134	302-6877497-005	RFT Coil, 5mm, BFC5-877497	T2 T3 T9		3						
	1-135	302-6874896-005	RFT Coil, 5mm, BFC5-874896	T8		1						

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	1-136	302-6875036-006	RFT Coil, 5mm, BFC5-875036	T15 T16 T17 T18		4						
	1-137	302-6LN7207-065	RFT Coil, 5mm, 5BL-N7207	T4 T13		2						
	1-138	302-6LN7209-065	RFT Coil, 5mm, 5BL-N7209	T5 T12		2						
	1-139	302-6LN7236-065	RFT Coil, 5mm, 5BL-N7236	T6 T11		2						
	1-140	302-5851659-005	IFT Coil, R0449-AF05-851659 Coils, 5mm	T7 T10		2						
	1-141	307-2060000-003	Balun Cores,RID 7.5x14x13.5mm, ☐ ☐ ☐ ☐ , B.F			1						
	1-142	306-0521400-033	Crystal Filter, 21.400MHz, 3-PIN, UM-5,WAYSUN(☐ ☐)	F1 F2		2						
	1-143	306-0517900-043	Crystal Filter, 17.900MHz, 3-PIN, UM-1,WAYSUN(☐ ☐)	F4 F5		2						
	1-144	321-6931250-116	Crystal, 69.3125MHz, 15pF, ±5ppm UM-1,WAYSUN(☐ ☐)	Y4		1						
	1-145	321-1280000-119	Crystal, 12.8MHz, 19pF, ±10ppm UM-1,WAYSUN(☐ ☐)	Y2		1						
	1-146	321-2094500-115	Crystal, 20.945MHz, 20pF, ±20ppm UM-1,WAYSUN(☐ ☐)	Y1		1						
	1-147	321-1835500-115	Crystal, 18.355MHz, 20pF, 20ppm UM-1, WAYSUN(☐ ☐)	Y3		1						
	1-148	306-0004550-125	Ceramic Filter, LTM455EW,455KHz, 6-Element 5-Pin,CQ	F3 F6		2						
	1-149	310-09UHFk0-040	UHF Antenna Socket,UHF-KY, M TYPE	J1		1						
CH	1-150	350-BL11224-100	0.5mm FFC/FPC Flat Cable Conector,BL112-24S			1						
	1-151	903-6000000-000	Power cord,w/SPK wire/GPS wire			1						
ADD	1-152	301-3111001-083	Chip Cap, 0603, 10pF,100V,+/-10%,NPO,Tape pack	C1		1						
ADD	1-153	301-3118091-083	Chip Cap, 0603, 8pF,100V,+/-10%,NPO,Tape pack	C2		1						
ADD	1-154											
ADD	1-155	301-3112201-083	Chip Cap, 0603, 22pF,100V,+/-10%,NPO,Tape pack	C7 C4		2						
ADD	1-156	301-3111801-083	Chip Cap, 0603, 18pF,100V,+/-10%,NPO,Tape pack	C5 C8 C11		3						
	1-157	301-3115091-083	Chip Cap, 0603, 5pF,100V,+/-10%,NPO,Tape pack	C10		1						
		301-3113091-056	Chip Cap, 0603, 3pF,50V,0.25pF,NPO,Tape pack	C244		1						

#2 ELECTRONICS COMPONENTS (2) KEY PCB SECTION												
	ITEM	P/N / DWG No.	TYPE	REFERENCE	APP'D MFC	QTY	HK\$	VENDOR	CODE	REQ'D QTY	ISSUE QTY	FOLLOW QTY
CH	2-1	311-6000013-221	LCD PCB, For MarineTransceiverFR4,T=1.6mm,D/S,G/P,137x59.5x1.6mm,REV:1	MAIN BOARD		1						
	2-2	305-S3P825A-100	IC,MCU,S3P825AXZZ--C0CA,Samsung	U1		1						
	2-3	305-4A60X51-100	IC-E PROM:S524A60X51-SCB0,Samsung	U2		1						
	2-4	305-S6B0716-100	IC,S6B0716,Samsung	U6		1						
	2-5	315-6000000-140	LCD For Marine Transceiver VH3339DGSZ, 32X41mm, ☐ ☐ ☐ ☐	U5		1						
	2-6	305-M3403AM-100	IC, NJM3403AM. SOP-14, JRC	U4		1						
	2-7	305-JM78M05-100	IC, NJM78M05DLIA, TO-252, JRC	U3		1						
	2-8	303-2KDS181-100	Switch Diode, KDS181, SMT,	D12		1						
CH	2-9	304-SC1623L-604	Transistor,NPN,2SC1623-L6,SOT-23,'NEC'	Q2 Q3 Q4 Q5 Q6		5						
	2-10	304-2SA812M-604	Transistor,PNP,2SA812-M6,SOT-23,'NEC'	Q1		1						
	2-11	303-0403390-060	Zener Diode, 0.5W, 3.3V,SMD,ZMM3V3	Z1		1						
	2-12	300-0500001-003	Chip Res, 0603, 0 Ohm,1/16W,+/-5%,Tape Pack	R36		1						
	2-13	300-0501001-003	Chip Res, 0603,10 Ohm,1/16W,+/-5%,Tape Pack	R14		1						
	2-14	300-0504701-003	Chip Res, 0603,47 Ohm,1/16W,+/-5% Tape Pack	R1 R30		2						

WINKLER INDUSTRIAL CO., LTD.

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ELECTRONIC ENGINEER: HAM YIN

CHECKED BY: ☐☐

MECHANICAL ENGINEER: Tony.Du

APPROVED BY:

CH	2-15	300-0507511-003	Chip Res, 0603,750 Ohm, 1/16W,+/-5%,Tape Pack	R32x2 R33x2		4						
CH	2-16	300-0505611-003	Chip Res, 0603,560 Ohm,1/16W,+/-5% Tape Pack	R31x2		2						
	2-17	300-0501021-003	Chip Res, 0603, 1K,1/16W,+/-5% Tape Pack	R2 R10		2						
	2-18	300-0501031-003	Chip Res, 0603, 10K,1/16W,+/-5% Tape Pack	R5 R15 R21 R22 R24 R27 R39 R45 R46		9						
		300-0503931-003	Chip Res, 0603, 39K,1/16W,+/-5% Tape Pack	R47		1						
	2-19	300-0502221-003	Chip Res, 0603, 2.2K,1/16W,+/-5% Tape Pack	R7 R35 R49		3						
		300-0503021-003	Chip Res, 0603, 3K,1/16W,+/-5% Tape Pack	R28		1						
	2-20	300-0503921-003	Chip Res, 0603, 3.9K,1/16W,+/-5% Tape Pack	R3 R40 R51		3						
	2-21	300-0504721-003	Chip Res, 0603, 4.7K,1/16W,+/-5% Tape Pack	R17		1						
	2-22	300-0501821-003	Chip Res, 0603, 1.8K,1/16W,+/-5%,Tape Pack	R37		1						
	2-23	300-0502031-033	Chip Res, 0603, 20K,1/16W,+/-5% Tape Pack	R18 R19 R20 R23		4						
	2-24	300-0502231-003	Chip Res, 0603, 22K,1/16W,+/-5% Tape Pack	R11 R43 R44 R48		4						
	2-25	300-0503031-003	Chip Res, 0603, 30K,1/16W,+/-5% Tape Pack	R25 R26 R50		3						
	2-26	300-0504731-003	Chip Res, 0603, 47K,1/16W,+/-5% Tape Pack	R12 R8 R29 R34 R38		5						
	2-27	300-0505631-003	Chip Res, 0603, 56K,1/16W,+/-5% Tape Pack	R9		1						
	2-28	300-0501041-003	Chip Res, 0603, 100K,1/16W,+/-5% Tape Pack	R4 R6 R16		3						
	2-29	300-0501841-003	Chip Res, 0603, 180K,1/16W,+/-5% Tape Pack	R13		1						
CH	2-30	300-9616941-001	High Precision Chip Res, 0603, 1.69M, 1/16W, +/-1%, Tape	R42		1						
CH	2-31	300-0503951-003	Chip Res,0603,3.9M,1/16W,+/-5%,Tape Pack	R41		1						
	2-32	301-3112201-053	Chip Cap, 0603, 22pF,50V+/-10%,NPO,Tape pack	C1 C2		2						
	2-33	301-3112701-053	Chip Cap,0603, 27pF,50V,+/-10%,NPO,Tape Pack	C3 C4		2						
	2-34	301-3126811-043	Chip Cap, 0603, 680pF, 25V, +/-10%, X7R,Tape	C15		1						
CH	2-35	301-3122221-043	Chip Cap, 0603, 0.0022uF, 25V, +/-10%, X7R, Tape	C17		1						
CH	2-36	301-3124721-043	Chip Cap, 0603, 0.0047uF, 25V, +/-10%, X7R, Tape	C16		1						
CH	2-37	301-3121021-043	Chip Cap, 0603, 0.001uF, 25V,+/-10%,X7R,Tape pack	C20		1						
CH	2-38	301-3121031-043	Chip Cap, 0603, 0.01uF,25V,+/-10%,X7R,Tape pack	C9 C13 C14 C19 C23 C35		6						
CH	2-39	301-3122231-043	Chip Cap, 0603, 0.022uF,25V,+/-10%, X7R,Tape pack	C36		1						
CH	2-40	301-3124731-043	Chip Cap, 0603, 0.047uF,25V,+/-10%, X7R,Tape pack	C18 C100		2						
	2-41	301-3101041-044	Chip Cap, 0603, 0.1uF,25V,+/-20%,Tape pack	C5 C8		2						
ADD	2-42	301-3101051-044	Chip Cap,0603,1uF,25V,+/-20%,Tape	C7 C11 C26 C28 C30 C31 C32 C33 C34 C25		10						
		301-0021000-024	E Cap, D4x7, 10uF, 10V, +/-20%	C24		1						
	2-43	301-0051000-024	E Cap, D5x11, 10uF, 10V, +/-20%	C6 C10 C22		3						
	2-44	301-4301061-034	Tan Cap, 1206,SMT, 10uF, 16V, ±20%	C12 C21		2						
CH	2-45	312-5990500-112	LED WS3015GSC-11SG,GREEN,WAITRONY	D1-D6		6						
CH	2-46	312-2431500-250	LED, 2x3.5x4x27mm, GB-693SG2C,Ultra Bright Green, Globe	D7 D8 D9		3						
CH	2-47	321-7862400-022	Crystal,7.8624MHz,20PF,+/-20PPM,HC49U	Y1		1						
	2-48	321-3276800-801	Crystal, 32.768KHz, 12.5pF, ±20ppm, D3x8mm	Y2		1						
	2-49	317-0171031-230	VR,,R177PS14K01-A10K, D17mm,L20mm,W/SW, "Bondale"	VR1		1						
	2-50	317-0171030-350	VR,,R177PN14K01-B10K, 10KB,D17mm,L20mm, "Bondale"	VR2		1						

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MECHANICAL ENGINEER: Tony.Du APPROVED BY:

	2-51	308-0111043-230	TACT SWITCH,TD-03XG,X=4.3mm,SMT,CHUNKAI	SW1 --SW21		21						
	2-52	327-5460000-071	MIC PLUG,7PIN,□□□□, Black			1						
	2-53	310-0607000-080	MIC SOCKET,7PIN			1						
CH	2-54	350-BL11224-100	0.5mm FFC/FPC Flat Cable Connector,BL112-24S			1						
	2-55	327-5124080-005	Flexible Flat Cable,0.5mmx80mm			1						
	2-56	309-2040066-085	Speaker,8 Ohm,2W, D40mm,waterproof,	SP1		1						
	2-57	326-2900581-521	Zebra , L29xW1.5xH5.8mm, Pitch 0.18mm, Sponge			1						
	2-58	326-4060581-521	Zebra , L40.6xW1.5xH5.8mm, Pitch 0.18mm, Sponge			2						
CH	2-59	311-6000022-221	MIC PCB, For MarineTransceiverFR4,T=1.2mm,D/S,G/P,41x35x1.2mm,REV:1			1						
	2-60	308-0111039-240	TACT SWITCH,TC-0241 X=3.85mm,CHUNKAI	PTT		1						
ADD	2-61	308-0111043-170	Tach Switch,Knob Height 4.3mm,TC-0102 'Chun Kai'	UP DOW CH16		3						
	2-62	313-6030987-000	Cap. MIC, 60+/-3dB, D9.8x7mm, 1.5V HQ64	MIC		1						
	2-63	301-3101021-044	Chip Cap, 0603, 0.001uF,25V, +/-20%,Tape pack	C24		1						
	2-64	300-0504731-003	Chip Res, 0603, 47K,1/16W,+/-5% Tape Pack	R501		1						
ADD	2-65	327-0107030-262	Wire, UL1007, 3+70+3mm,26AWG, Red	SP+		1						
ADD	2-66	327-0107030-260	Wire, UL1007, 3+70+3mm, 26AWG, Black	SP-		1						
ADD	2-67	327-0112030-220	Wire,UL1007, 3+120+3mm, 22AWG, Black	GND		1						
ADD	2-68	301-0632210-044	E Cap, D8x16, 220uF, 25V, +/-20%	C38		1						
ADD	2-69	327-0104530-260	Wire, UL1007, 3+45+3mm, 26AWG, Black	MIC-		1						
ADD	2-70	327-0104530-262	Wire, UL1007, 3+45+3mm, 26AWG, Red	MIC+		1						
		301-3122731-043	Chip Cap, 0603, 0.027uF,25V,+/-10%, X7R,Tape pack	C37		1						

	#3	PLASTICS PARTS			OVERALL							
	ITEM	P/N / Dwg No.	TYPE	FINISH	COLOUR	QTY	HK\$	VENDOR	CODE	REQ'D QTY	ISSUE QTY	FOLLOW QTY
	3-1	502-6000000-001	Front Panel For Marine Radio, Black ABS, S/S"MIDLAND"(White)			1						
	3-2	502-6000100-000	Front Cover For Marine Radio, Black ABS			1						
	3-3	523-6000006-000	Keypad Reflector For Marine Radio, White PMMA			1						
	3-4	515-6000000-200	Distress button For Marine Radio, Red ABS			1						
	3-5	517-6000000-000	VR-Knob 1 For Marine Radio, Black ABS			2						
move	3-6					1						
move	3-7											
	3-8	523-6000106-000	Reflex Plate For Marine Radio, White PMMA			1						
	3-9	535-600000P-000	Lock Plate For Marine Radio, Black POM			2						
	3-10	519-600000B-001	Lens For Marine Radio, PVC, S/S"NEPTUNE"(White)			1						
			HANDLE MIC									
	3-11	502-6000200-000	Mic Front Cabinet For Marine Radio,No 3 holes, Black ABS			1						
	3-12	501-6000000-000	Mic Bottom Cabinet For Marine Radio, Black ABS			1						
CH	3-13	516-6000003-000	Mic Slide Knob For Marine Radio, Black Nylon			1						
	3-14	536-6104100-000	Wheel bracket for 77-104, Black ABS			1						

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MECHANICAL ENGINEER: Tony.Du APPROVED BY:

#4	METAL PARTS			OVERALL								
ITEM	P/N / Dwg No.		FINISH	RAW MATERIA L	QTY	HK\$	VENDOR	CODE	REQ'D QTY	ISSUE QTY	FOLLOW QTY	
CH 4-1	401-2008000-200	ST Screw ,M2x8mm,PA,Nickle Plated	For Front PCB		10							
4-2	401-3015010-200	ST Screw ,M3x15mm,PA, Black Plated	For Front Panel		4							
4-3	400-3008000-100	M screw,M3x8mm,PM,Nickle plated, BM(Slotted & Square Socket)	For Shield Box 2		3							
4-4	400-3030010-960	M screw,M3x30mm,PWM,D=6.0, Black Plated	For Body cover		2							
4-5	430-6000010-700	Shield box 1,Tin plate			1							
4-6	430-6000020-700	Shield box 2,tin plate			1							
4-7	442-6000010-530	Radio Body For Marine Radio,Aluminum,Black Plated			1							
4-8	442-6000020-530	Radio Body Cover For Marine Radio,Aluminum,Black Plated			1							
4-9	409-6000000-310	Spring ,L23.7mm,Carbon steel line Dia 0.20, Nickle plated	For Distress button		2							
4-10	415-6000000-B00	Metal LCD Bracket ,Tin plate			1							
4-11	412-6000000-210	Insert Plate ,Iron plate , Nickel Plated	For Power connector		1							
4-12	418-6000000-110	Customs Made screw ,Brass ,nickel plated	For Lock knob		2							
4-13	400-3034010-960	M screw,M3x34mm,PWM,D=6.0,Black Plated	For Body cover		2							
4-14	400-3008000-200	M screw,M3x8mm,PM,Nickle plated,	For MAIN PCB		3							
		HANDLE MIC										
4-15	401-2606002-200	ST Screw ,M2.6X6,Nickel Plated ,PB,	For Wheel Bracket		1							
CH 4-16	412-6092000-200	MIC Metal Block for 77-092, 40mmx30mmx3mm, Iron			4							
4-17	401-1706000-200	ST Screw, M1.7x6,Nickle plated,PA	For PCB		4							
4-18	401-3010010-200	ST Screw, M3x10,PA,Black Plated	For Front/Bottom Cabinet		3							
4-19	401-2008000-960	ST Screw,M2.0x8,PWA,Nickle plated,D6.0mm	For Metal Block		1							
Add 4-20	402-0033060-055	Metal Flat Washer,01-030-28B,0.5THKxID3.3xOD6mm,MING FAI	For Body screw		4							
Add 4-21	412-6000010-400	shield plate 3,Phosphorus Copper	For Module		1							
4-22												

#5	MISCELLANEOUS			OVERALL								
5-1	335-6000001-001	Keypad For Marine Radio, Transparent Silicon Rubber, S/S:"0-9,C,E,16..."	For Main Unit		1							
5-2	825-6000000-000	Front Rubber Gasket For MR-100, Black Silicon Rubber	For Front panel		1							
5-3	825-600007D-000	Rubber Washer 3,Silicon Rubber	For Antenna		1							
5-4	825-600005D-000	Rubber Gasket ,Silicon Rubber	For body		1							
5-5	825-6000060-000	Rubber Washer 2 For MR-100, Black Silicon Rubber	For screw		4							
CH 5-6	825-6000080-000	O Ring ,Ring ID8Φ,ODΦ10,RubberΦ1.0mm	For VR		2							
5-7	825-600001D-000	Rubber Washer 1,Silicon Rubber	For MIC Connector		1							
5-8	825-6000040-000	Rubber Cap For MR-100, Black Silicon Rubber	For MIC Connector		1							
5-9												
5-10												
5-11	825-6000090-000	O Ring ,OD12mm,ID10mm	For MIC Lock Cap/VR		3							
5-12	817-0040000-00A	Felt sheet , L400BN,Φ40,THK0.1,	For SPK		1							

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	5-13	807-6000000-005	Tracing paper For Marine Radio,L39x29.4xT0.1mm	For Reflector		1						
Add	5-14	807-6000001-008	White paper For Marine Radio,L39x29.4mm	For Reflector		2						
Add	5-15	824-0600000-000	Knob Glove For Marine Radio, Black Silicon Rubber			2						
			HANDLE MIC									
	5-16	825-6000120-000	Mic Rubber tube for Marine Radio Mic, Black Silicon Rubber	For Spring Wire		1						
	5-17	825-6000020-000	MIC Rubber Gasket For Marine Radio MIC,Silicon Rubber	For Bottom&Top Cover		1						
	5-18	825-6000030-000	MIC Rubber Switch For Marine Radio MIC,Silicon Rubber	For PTT Level		1						
	5-19	825-6000100-000	O Ring,OD6.0,ID4.0mm,	For Bottom Cover		4						
	5-20	825-6000110-000	O Ring,OD8.0,ID6.0mm,	For Wheel Bracket		1						
	5-21	817-0010000-00A	Felt sheet , L400BN,φ9.8,thk0.1,			1						
del	5-22					1						
Add	5-23	335-6000001-011	Mic Keypad For Marine Radio Mic, Black Silicon Rubber, S/S"UP,DOWN,16"	For MIC		1						
Add	5-24	807-6000000-001	Reflex paper,L117xW3mm,	For Reflector		1						
Add	5-25	823-0350030-151	Pad Cork,L35xW3xH1.5mm,TB580 Black EVA w/A on one side	For Reflexor		2						

	6#		***PACKAGE MATERIAL***									
	#	METAL PARTS										
	6-1	415-6092010-610	Metal MIC Bracket For 77-092, White, Alloy, Nickel Plated	FOR MIC		1						
	6-2	400-4010000-107	M Screw, M4x10mm,Nickel Plated,BM	FOR MIC BRACKET		2						
	6-3	401-4010007-100	ST Screw, M4x10mm,BT, Nickel Plated	FOR MIC BRACKET		2						
	6-4	403-0400703-011	Hexagon Nut, M4xOD7xT3, Iron, Nickel Plated, 3506-1 Yuet Chung	FOR MIC BRACKET		2						
	6-5	402-0440070-103	Spring Washer, M4xOD7xT1.0mm, White, Stainless Steel	FOR MIC BRACKET		2						
	6-6	402-0042090-085	Flat Washer,105G-1, ID4.2xOD9xT0.8mm, Iron	FOR MIC BRACKET		2						
	6-7	324-6317022-211	FUSE, 250V 7A ,			1						
	6-8	903-6000010-000	Power cord, w/Fuse 250V 7A			1						
	6-9	400-5030000-400	M Screw,M5x30mm,Nickel Plated,KM	FOR PLASTICS BRACKET		4						
	6-10	401-5025000-400	ST Screw,M5x25mm,Nickel Plated,KA	FOR PLASTICS BRACKET		4						
	6-11	402-0050100-085	Flat Washer, M5xOD10xT0.8, Iron	FOR PLASTICS BRACKET		4						
	6-12	402-0450086-123	Spring Washer M5xOD8.6xT1.2mm, Stainless Steel	FOR PLASTICS BRACKET		4						
	6-13	403-0500904-011	Nut, M5xOD9x4.0mm,Iron, Nickel Plated	FOR PLASTICS BRACKET		4						
	6-14											
	6-15	536-6000000-000	Bracket For Marine Radio, Black ABS	FOR MAIN UNIT		1						
	6-16	517-6000100-000	Lock Knob For Marine Radio, w/Customs Made Screw, Black ABS	FOR BRACKET		2						