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APPENDIX E: BILL OF MATERIALS (PARTS LIST)

| Item | Quantity | Reference | Part |
|------|----------|--|-----------|
| 1 | 2 | ANT1,ANT2 | Patch_ANT |
| 2 | 4 | C2,C11,C15,C3041 | 2.2uF |
| 3 | 36 | C12,C13,C17,C18,C26,C29, C30,C32,C35,C36,C40,C41, C53,C57,C70,C71,C72,C84, C89,C93,C112,C117,C121, C124,C132,C133,C135, C3021,C3023,C3026,C3034, C3036,C3043,C3055,C3059, C3060 | 0.1uF |
| 4 | 16 | C22,C60,C61,C68,C86,C92, C95,C99,C103,C114,C125, C130,C139,C140,C3037, C3038 | 0.01uF |
| 5 | 6 | C23,C76,C80,C116,C2003, C3042 | 1000pF |
| 6 | 6 | C24,C69,C3063,C3070, C3080,C3084 | 22pF |
| 7 | 9 | C38,C43,C129,C134,C136, C3022,C3027,C3035,C3095 | 10uF |
| 8 | 6 | C39,C44,C47,C55,C56,C74 | 220pF |
| 9 | 5 | C42,C137,C3031,C3032, C3096 | 1nF |
| 10 | 2 | C45,C46 | 15pF |
| 11 | 2 | C49,C75 | 3.3pF |
| 12 | 2 | C52,C51 | 10pF |
| 13 | 1 | C58 | 1.8pF |
| 14 | 8 | C59,C67,C78,C109,C3076, C3078,C3079,C3083 | 7pF |
| 15 | 11 | C62,C83,C3064,C3065, C3072,C3073,C3077,C3081, C3085,C3086,C3087 | 9pF |
| 16 | 12 | C85,C88,C94,C104,C108, C2015,C3082,C3088,C3089, C3092,C3093,C3094 | 100pF |
| 17 | 1 | C91 | 0.022uF |
| 18 | 1 | C100 | 0.22uF |
| 19 | 1 | C107 | 3900pF |
| 20 | 2 | C110,C120 | 68pF |
| 21 | 4 | C111,C3044,C3068,C3074 | 24pF |
| 22 | 1 | C118 | 0.068uF |
| 23 | 1 | C123 | 0.68uF |
| 24 | 4 | C3028,C3029,C3057,C3058 | 18pF |
| 25 | 2 | C3030,C3033 | 180pF |
| 26 | 2 | C3039,C3040 | 2.2nF |
| 27 | 2 | C3046,C3045 | 10uF/6.3V |
| 28 | 9 | C3047,C3048,C3049,C3050, C3051,C3052,C3053,C3054, | 100nF |

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| | | C3061 | | |
| 29 | 2 | C3075,C3066 | 4.7pF | |
| 30 | 5 | L3004,L3019,L3022,L3027, C3069 | | 3.3nH |
| 31 | 10 | R13*,R3008*,L3012,L3013, L3015,L3017,L3024,L3026, C3071,C3091 | | 미삽 |
| 32 | 1 | C3090 | 270pF | |
| 33 | 2 | D4,D7 | BZX84C3V3/SOT | |
| 34 | 2 | D5,D6 | BAT54S/SOT | |
| 35 | 1 | D207 | SML010MT RED | |
| 36 | 1 | D208 | SML010MT GRN | |
| 37 | 1 | D210 | BAT14-03 | |
| 38 | 1 | FL1 | SAW374M | |
| 39 | 2 | FL5,FL6 | LFSN30 | |
| 40 | 1 | J1 | BNC | |
| 41 | 1 | J100 | USB_B 5pin | |
| 42 | 1 | J101* | USB_B | |
| 43 | 1 | J102* | MMS2_08 | |
| 44 | 1 | L1 | 0.56uH | |
| 45 | 6 | L2,L3007,L3008,L3009, L3010,L3011 | | BLM21P300S |
| 46 | 1 | L5 | 39nH | |
| 47 | 1 | L6 | 18nH | |
| 48 | 3 | L7,L3018,L3023 | | 2.2nH |
| 49 | 4 | L9,L10,L12,L14 | | 33nH |
| 50 | 1 | L73 | 2.7nH | |
| 51 | 1 | L3016 | 1.8nH | |
| 52 | 2 | L3025,L3020 | 5.6nH | |
| 53 | 1 | L3021 | 3.9nH | |
| 54 | 1 | L3028 | 1.5nH | |
| 55 | 1 | L3029 | 4.7nH | |
| 56 | 3 | Q1,Q8,Q9 | IRLML6302 | |
| 57 | 3 | Q2,Q5,Q6* | IRLML2402 | |
| 58 | 1 | Q7 | ATF35143 | |
| 59 | 8 | R1,R3017,R3026,R3030, R3032,R3033,R3035,R3036 | | 3.3K |
| 60 | 1 | R2 | 10M | |
| 61 | 4 | R3,R4*,R3013,R3015 | 270 | |
| 62 | 21 | R5,R8***,R8**,R8*,R8,R9, R10,R19,R23,R27,R29,R57, R61,R63,R64,R74,R1073, R3006,R3007,R3023,R3024 | | 0 |
| 63 | 4 | R6,R7,R3018,R3019 | 15 | |
| 64 | 1 | R11 | 0* | |
| 65 | 4 | R15,R65,R3016*,R3016 | | 1.5K |
| 66 | 1 | R20 | 560 | |
| 67 | 10 | R22,R25,R31,R35,R47,R49, R51,R3028,R3038,R3039 | | 100 |
| 68 | 3 | R28,R30,R37 | 1.0K | |
| 69 | 2 | R32,R36 | 12K | |
| 70 | 2 | R33,R34 | 19.1K | |
| 71 | 1 | R38 | 10K | |
| 72 | 2 | R39,R44 | 1.1K | |

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| 73 | 2 | R40,R52 | 2K | |
| 74 | 9 | R41,R3037,R3040,R3041, R3042,R3044,R3047,R3049, R3050 | | 1k |
| 75 | 1 | R45 | 2.7K | |
| 76 | 1 | R55 | 3.92K | |
| 77 | 2 | R56,R3045 | 51 | |
| 78 | 4 | R58,R62,R66,R67 | 124 | |
| 79 | 2 | R70,R59 | 510 | |
| 80 | 1 | R69 | 649 | |
| 81 | 1 | R73 | 10 | |
| 82 | 2 | R75,R77 | 90.9 | |
| 83 | 1 | R76 | 82.5 | |
| 84 | 2 | R3043*,R2015 | 20 | |
| 85 | 1 | R3009 | 820 | |
| 86 | 3 | R3010,R3021,R3022 | 150 | |
| 87 | 4 | R3027,R3029,R3031,R3034 | | 3.3K* |
| 88 | 1 | R3046 | 470 | |
| 89 | 1 | R3048 | 330 | |
| 90 | 95 | T1,T2,T3,T4,T5,T6,T7,T8, T11,T12,T13,T14,T15,T16, T17,T18,T19,T20,T21,T22, T23,T24,T25,T26,T27,T28, T29,T30,T31,T32,T33,T34, T35,T36,T37,T38,T39,T40, T41,T42,T43,T44,T45,T46, T47,T100,T101,T103,T104, T105,T106,T107,T108,T109, T110,T111,T112,T113,T114, T115,T116,T117,T118,T119, T120,T121,T122,T123,T124, T125,T200,T201,T202,T203, T204,T205,T206,T207,T208, T209,T210,T211,T212,T213, T214,T215,T216,T217,T300, T301,T302,T306,T307,T308, T309 | | TP |
| 91 | 1 | U1 | AT76C503A | |
| 92 | 1 | U2 | GS71108TP | |
| 93 | 1 | U3 | HFA3863 | |
| 94 | 1 | U4 | HFA3783 | |
| 95 | 1 | U5 | HFA3683A | |
| 96 | 1 | U6 | ITT2303gj | |
| 97 | 1 | U7 | LDC15B120J2450 | |
| 98 | 2 | U8,U9 | UPG158TB | |
| 99 | 2 | U11,U10 | AME8801AEEV | |
| 100 | 2 | U12,U13 | AME8801JEEV | |
| 101 | 1 | U15 | 44M-OSC | |
| 102 | 1 | U16 | MVE-748 | |
| 103 | 1 | U17 | MVN-2074 | |
| 104 | 1 | U19 | UMC5N | |
| 105 | 1 | U20 | AT25040-10SC | |
| 106 | 1 | U21 | AT45DB011-SC | |
| 107 | 1 | U22 | AT29LV010A | |

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| 108 | 1 | U23 | AT49LV001N-90TC |
| 109 | 1 | X1 | Xtal 12MHz |
| 110 | 1 | X2 | Xtal 36MHz(SMD6035) |
| 111 | 1 | Y1 | Xtal 36MHz(SMD 6x3.5x1.0mm) |