



# MATERIAL BUILD RECORD

Department of  
Physics & Astronomy

Project: G2\_FOX\_TRANSMITTER  
Assembly: 102-73181

KC0JFQ\_DRA818\_LQFP64

Board: 102-73181.10  
Schematic: 102-73181.10

Idx #	Pg #	Comp S/N as needed	Component MIT	Part Type	Ref Des	Part Value	Flight Part Number	Kit by	Value Ver	Insp by	Lead Form	Insp by	Tinned by	Insp by	Appl by	Insp by
1	1	1.8C Top	5.300 4.700	CONTACT CONN_NOTE	BATT1_PIN1	0016020103	0016020103									
1	1	1.8C Top	5.300 4.100	CONTACT CONN_NOTE	BATT1_PIN2	0016020103	0016020103									
2	1	1.8C Top	5.300 5.300	CONN HOUSING LATCH 3 CONN_NOTE	BATT1	0050579403	0050579403									
3	1	3.1F Top	1.915 0.435	BATT HOLDER COIN SMD KEY-1056	BT1	1056	1056									
4	1	1.7C Top	4.600 5.300	BATTERY HOLDER W/WIRE CONN_NOTE	BATT	BH26AAAW	BH26AAAW									
5	1	2.9D Top	0.220 0.750	BUZZER BUZZER-CX09	BZ1	CX-0905C	CX-0905C									
10	1	Top	1.825 0.000	N/A Not Applicable HAMMOND 1599E S&B18 OUTLINE	BRD19N/A	RF DAUGHTERBOARD	Do NOT Install									
11	1	2.6B Bot	1.548 1.690	CAP CER X7R 50V SM0603	C16	.01UF	CL10B103KB8NNNC									
11	1	3.4C Bot	3.995 1.250	CAP CER X7R 50V SM0603	C17	.01UF	CL10B103KB8NNNC									
11	1	2.7B Bot	1.723 1.690	CAP CER X7R 50V SM0603	C18	.01UF	CL10B103KB8NNNC									
11	1	2.7B Bot	1.843 1.465	CAP CER X7R 50V SM0603	C19	.01UF	CL10B103KB8NNNC									
11	1	2.7B Bot	1.625 1.350	CAP CER X7R 50V SM0603	C2	.01UF	CL10B103KB8NNNC									
11	1	2.2F Top	1.585 0.820	CAP CER X7R 50V SM0603	C24	.01UF	CL10B103KB8NNNC									
11	1	3.7B Bot	1.065 1.965	CAP CER X7R 50V SM0603	C27	.01UF	CL10B103KB8NNNC									
11	1	2.8B Bot	1.415 1.497	CAP CER X7R 50V SM0603	C28	.01UF	CL10B103KB8NNNC									
11	1	2.5E Top	0.702 1.165	CAP CER X7R 50V SM0603	C29	.01UF	CL10B103KB8NNNC									
11	1	2.6E Top	0.635 0.760	CAP CER X7R 50V SM0603	C30	.01UF	CL10B103KB8NNNC									
11	1	3.4C Bot	3.503 2.335	CAP CER X7R 50V SM0603	C46	.01UF	CL10B103KB8NNNC									



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11	2	3.2E Bot	2.145 2.115	CAP CER X7R 50V SM0603	C54	.01UF	CL10B103KB8NNNC									
11	2	2.3F Top	1.700 0.820	CAP CER X7R 50V SM0603	C55	.01UF	CL10B103KB8NNNC									
11	2	4.2F Top	1.825 1.110	CAP CER X7R 50V SM0603	C56	.01UF	CL10B103KB8NNNC									
11	2	3.6A Bot	4.310 2.285	CAP CER X7R 50V SM0603	C59	.01UF	CL10B103KB8NNNC									
11	2	5.1B Bot	2.230 0.975	CAP CER X7R 50V SM0603	C60	.01UF	CL10B103KB8NNNC									
11	2	2.5F Bot	1.740 1.080	CAP CER X7R 50V SM0603	C65	.01UF	CL10B103KB8NNNC									
11	2	4.7A Top	2.790 1.460	CAP CER X7R 50V SM0603	C7	.01UF	CL10B103KB8NNNC									
11	2	4.8C Bot	2.710 1.025	CAP CER X7R 50V SM0603	C79	.01UF	CL10B103KB8NNNC									
11	2	4.5A Top	2.875 1.155	CAP CER X7R 50V SM0603	C8	.01UF	CL10B103KB8NNNC									
11	2	5.3C Top	2.495 0.475	CAP CER X7R 50V SM0603	C86	.01UF	CL10B103KB8NNNC									
11	2	4.9C Top	2.540 1.025	CAP CER X7R 50V SM0603	C89	.01UF	CL10B103KB8NNNC									
11	2	4.2E Bot	1.413 1.345	CAP CER X7R 50V SM0603	C9	.01UF	CL10B103KB8NNNC									
11	2	5.3E Top	2.495 0.645	CAP CER X7R 50V SM0603	C96	.01UF	CL10B103KB8NNNC									
12	2	4.2B Top	3.510 1.530	CAP X7R/BX SM0603	C51	.18UF	CC0603KRX7R8BB184									
13	2	2.7E Bot	0.650 0.855	CAP CER X7R 50V SM0603	C1	.1UF	CL10B104KB8NNNC									
13	2	3.9D Bot	1.038 0.589	CAP CER X7R 50V SM0603	C10	.1UF	CL10B104KB8NNNC									
13	2	3.4B Bot	3.553 2.155	CAP CER X7R 50V SM0603	C11	.1UF	CL10B104KB8NNNC									
13	2	3.7A Bot	3.783 1.560	CAP CER X7R 50V SM0603	C12	.1UF	CL10B104KB8NNNC									



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13	3	2.2D Bot	2.025 2.745	CAP CER X7R 50V SM0603	C13	.1UF	CL10B104KB8NNNC									
13	3	2.6D Top	0.815 1.690	CAP CER X7R 50V SM0603	C14	.1UF	CL10B104KB8NNNC									
13	3	2.8B Bot	1.400 2.137	CAP CER X7R 50V SM0603	C15	.1UF	CL10B104KB8NNNC									
13	3	3.7B Bot	4.095 2.100	CAP CER X7R 50V SM0603	C22	.1UF	CL10B104KB8NNNC									
13	3	2.3E Bot	0.585 2.595	CAP CER X7R 50V SM0603	C3	.1UF	CL10B104KB8NNNC									
13	3	3.9E Bot	1.085 0.855	CAP CER X7R 50V SM0603	C40	.1UF	CL10B104KB8NNNC									
13	3	2.5E Top	0.553 1.410	CAP CER X7R 50V SM0603	C42	.1UF	CL10B104KB8NNNC									
13	3	3.4C Top	3.935 2.330	CAP CER X7R 50V SM0603	C44	.1UF	CL10B104KB8NNNC									
13	3	3.5B Bot	3.815 2.290	CAP CER X7R 50V SM0603	C45	.1UF	CL10B104KB8NNNC									
13	3	4.7A Bot	2.710 1.425	CAP CER X7R 50V SM0603	C47	.1UF	CL10B104KB8NNNC									
13	3	2.4E Top	0.642 1.955	CAP CER X7R 50V SM0603	C5	.1UF	CL10B104KB8NNNC									
13	3	3.4F Bot	1.180 0.230	CAP CER X7R 50V SM0603	C50	.1UF	CL10B104KB8NNNC									
13	3	2.3E Bot	0.735 2.595	CAP CER X7R 50V SM0603	C53	.1UF	CL10B104KB8NNNC									
13	3	2.4E Bot	0.585 2.060	CAP CER X7R 50V SM0603	C57	.1UF	CL10B104KB8NNNC									
13	3	4.6A Bot	2.865 1.160	CAP CER X7R 50V SM0603	C61	.1UF	CL10B104KB8NNNC									
13	3	2.8C Bot	2.965 2.410	CAP CER X7R 50V SM0603	C64	.1UF	CL10B104KB8NNNC									
13	3	5.2C Top	3.030 0.410	CAP CER X7R 50V SM0603	C84	.1UF	CL10B104KB8NNNC									
13	3	5.3C Bot	2.250 0.450	CAP CER X7R 50V SM0603	C87	.1UF	CL10B104KB8NNNC									



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13	4	5.1E Top	2.985 0.700	CAP CER X7R 50V SM0603	C94	.1UF	CL10B104KB8NNNC									
13	4	5.3E Bot	2.250 0.650	CAP CER X7R 50V SM0603	C97	.1UF	CL10B104KB8NNNC									
14	4	4.3B Top	3.370 1.185	CAP NPO/BP SM0603	C25	1000PF	GRM1885C1H102JA01J									
14	4	5.8B Bot	4.510 0.435	CAP NPO/BP SM0603	C39	1000PF	GRM1885C1H102JA01J									
14	4	5.1B Top	2.190 0.980	CAP NPO/BP SM0603	C52	1000PF	GRM1885C1H102JA01J									
14	4	4.9C Bot	2.415 0.970	CAP NPO/BP SM0603	C99	1000PF	GRM1885C1H102JA01J									
15	4	3.5E Bot	3.045 0.280	CAP NPO/BP SM0603	C31	100PF	C0603C101M5GACTU									
15	4	3.4D Top	4.005 1.817	CAP NPO/BP SM0603	C43	100PF	C0603C101M5GACTU									
15	4	3.5E Bot	3.155 0.280	CAP NPO/BP SM0603	C62	100PF	C0603C101M5GACTU									
16	4	2.2C Bot	1.115 1.341	CAP NPO/BP SM0805	C20	10PF	08055A100JAT2A									
16	4	2.1C Bot	1.115 1.149	CAP NPO/BP SM0805	C21	10PF	08055A100JAT2A									
17	4	2.7E Top	0.625 0.535	CAP TANTALUM SMP_M3528	C23	10UF/25V	10UF/15V									
17	4	2.7E Top	3.315 1.790	CAP TANTALUM SMP_M3528	C26	10UF/25V	10UF/15V									
17	4	2.3E Top	0.645 2.705	CAP TANTALUM SMP_M3528	C4	10UF/25V	10UF/15V									
17	4	2.5E Top	0.573 1.585	CAP TANTALUM SMP_M3528	C6	10UF/25V	10UF/15V									
17	4	2.5D Top	0.815 1.450	CAP TANTALUM SMP_M3528	C71	10UF/25V	10UF/15V									
17	4	5.1C Top	2.865 0.218	CAP TANTALUM SMP_M3528	C83	10UF/25V	10UF/15V									
17	4	5.1E Top	3.170 0.610	CAP TANTALUM SMP_M3528	C93	10UF/25V	10UF/15V									



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18	5	4.4B Bot	3.120 1.215	CAP NPO/BP SM0603	C41	18PF	C0603C180J5GACTU									
18	5	4.3B Bot	3.120 1.395	CAP NPO/BP SM0603	C58	18PF	C0603C180J5GACTU									
19	5	2.6C Bot	0.955 2.567	CAP CER NPO 50V SM0805	C70	33PF	885012007054									
20	5	4.4B Top	3.205 1.480	CAP VARIABLE VOLTRONICS_JZ	CT1	5.5-30PF	JR300									
21	5	3.3F Bot	0.960 0.170	CAP CER NPO 50V SM0805	C48	5.6PF	CC0805DRNPO9BN5R6									
21	5	3.3F Bot	0.965 0.393	CAP CER NPO 50V SM0805	C49	5.6PF	CC0805DRNPO9BN5R6									
22	5	5.6C Bot	3.680 0.425	CAP NPO/BP SM0805	C32	68PF	C0805C680J5GACTU									
22	5	5.8C Bot	4.025 0.430	CAP NPO/BP SM0805	C38	68PF	C0805C680J5GACTU									
23	5	5.7C Top	3.745 0.435	CAP NPO SM0805	C34	91PF	C0805C910J5GACTU									
23	5	5.7C Top	3.960 0.435	CAP NPO SM0805	C36	91PF	C0805C910J5GACTU									
23	5	5.3D Bot	2.690 0.505	CAP NPO SM0805	C80	91PF	C0805C910J5GACTU									
24	5	2.8C Bot	2.835 2.270	N/A Not Applicable SM0603	C63	N/A .01UF	Do NOT Install									
25	5	4.4B Top	3.205 1.130	N/A Not Applicable VOLTRONICS_JZ	CT2	N/A 5.5-30PF	Do NOT Install									
26	5	5.7C Bot	3.500 0.600	N/A Not Applicable SM0805	C33	N/A	Do NOT Install									
26	5	5.7C Bot	3.850 0.645	N/A Not Applicable SM0805	C35	N/A	Do NOT Install									
26	5	5.7C Bot	4.200 0.580	N/A Not Applicable SM0805	C37	N/A	Do NOT Install									
28	5	3.1E Top	1.145 0.065	DIODE GEN PURP DO35-050	D6	1N3595	1N3595									
29	5	2.6C Top	0.943 2.070	DIODE SOT23-3	D1	BAV99	BAV99-7-F									



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30	6	2.8D Top	0.343 0.155	LED RED DIFF 19MCD LED T1-3/4	D2	LTL-4223	LTL-4223									
31	6	2.4D Bot	0.440 2.305	N/A Not Applicable SOD123	D3	N/A SOD123	Do NOT Install									
32	6	4.4C Bot	3.245 1.190	DIODE VARACTOR SOT23-3	DV1	SMV1213	SMV1213-001LF									
32	6	4.3C Bot	3.245 1.425	DIODE VARACTOR SOT23-3	DV2	SMV1213	SMV1213-001LF									
33	6	3.6B Top	4.120 2.040	TVS DIODE SOT23-3	D5	STS232050	STS232050UL40									
34	6	2.2E Bot	0.240 2.280	DIODE 3A DO214AC	D4	VS-3EMU06	VS-3EMU06-M3/5AT									
35	6	3.1E Bot	0.122 0.380	VOLTAGE REF(4.096V) SOT23-3	DZ1	ZRC400	ZRC400F01TA									
36	6	1.8B Top	6.250 5.500	BOX ABS BLACK 6.69L X 3.37W ENCLOSURE	ENCL1	1599EBKBAT	1599EBKBAT									
39	6	1.8D Top	6.400 4.200	SCREW-INDIVIDIAL HARDWARE_SCREW	HW10	1593ATS	1593ATS50									
39	6	1.8D Top	5.800 4.200	SCREW-INDIVIDIAL HARDWARE_SCREW	HW4	1593ATS	1593ATS50									
39	6	1.8D Top	6.700 4.200	SCREW-INDIVIDIAL HARDWARE_SCREW	HW8	1593ATS	1593ATS50									
39	6	1.8D Top	6.100 4.200	SCREW-INDIVIDIAL HARDWARE_SCREW	HW9	1593ATS	1593ATS50									
40	6	1.7D Top	2.400 4.100	HEX STANDOFF M2.5X0.45 ALUM HARDWARE_SPACER	FW11	24424	24424									
44	6	3.1B Top	1.500 5.300	USB UART 3.5MM HARDWARE_CABLE	HC5B	TTL-232R-3V3-AJ	TTL-232R-3V3-AJ									
45	6	2.2D Top	1.500 4.700	PROGRAMMER (ETH) HARDWARE_CABLE	HC3	ZENETSC0100Z	ZENETSC0100ZACG									
46	6	2.1D Top	4.560 0.945	CONN-LTCH-MOLEX-VERT 3 HDR_50-57-9403V	J7	0705430037	0705430037									
47	6	2.1E Top	0.250 2.655	CONN-LTCH-MOLEX-R/A 3 HDR_50-57-9403	J2	0705530002	0705530002									
48	6	5.9B Top	4.450 0.600	CONN BNC R/A TYCO_5414373	J1	5414373-1	5414373-1									



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49	7	3.7B Top	4.545 2.075	CONNECTOR USB B VERT CONN_USB_B_EDAC	J5	690-004-660-023	690-004-660-023									
50	7	2.3D Top	1.975 2.575	CONNECTOR HDR_2X3	J3	75869-131LF	75869-131LF									
51	7	2.7C Top	2.810 2.575	CONNECTOR HDR_2X7	J6	75869-202LF	75869-202LF									
52	7	4.6E Top	1.060 1.610	JUMPER HEADER HDRB_2	JP2	PBC02SAAN	PBC02SAAN									
52	7	3.4A Top	4.145 2.290	JUMPER HEADER HDRB_2	JP4	PBC02SAAN	PBC02SAAN									
52	7	2.8D Top	0.110 1.075	JUMPER HEADER HDRB_2	JP5	PBC02SAAN	PBC02SAAN									
52	7	2.9D Top	0.235 1.075	JUMPER HEADER HDRB_2	JP6	PBC02SAAN	PBC02SAAN									
52	7	5.4C Top	2.250 0.175	JUMPER HEADER HDRB_2	JP7	PBC02SAAN	PBC02SAAN									
53	7	1.7C Top	3.900 5.300	CONN-SULLINS-VERT3 CONN_NOTE	J18_1	PPPC031	PPPC031LFBN-RC									
53	7	1.8C Top	3.300 5.300	CONN-SULLINS-VERT3 CONN_NOTE	J18_3	PPPC031	PPPC031LFBN-RC									
53	7	1.8C Top	3.900 4.100	CONN-SULLINS-VERT3 CONN_NOTE	J18_4	PPPC031	PPPC031LFBN-RC									
54	7	3.6D Top	3.150 0.125	CONN-SULLINS-VERT3 HDRB_3	J18_5	PPPC031	PPPC031LFBN-RC									
55	7	1.7C Top	3.900 4.700	CONN-SULLINS-VERT6 CONN_NOTE	J18_2	PPPC061	PPPC061LFBN-RC									
56	7	3.2A Top	0.438 0.410	JUMPER HEADER R/A JMP02_R/A	JP3	PRPC002SBAN	PRPC002SBAN-M71RC									
57	7	3.1C Top	4.905 1.280	CONN JACK STEREO SJ-352X	J4	SJ-3524	SJ-3524-SMT-TR									
58	7	4.2B Top	3.415 1.403	INDUCTOR SM0805	L5	1uH	36502A1R0JTDG									
59	7	5.7B Top	3.500 0.600	INDUCTOR AIAC-1812	L33A	39nH	AIAC-1812-39N									
59	7	5.7B Top	3.845 0.645	INDUCTOR AIAC-1812	L35A	39nH	AIAC-1812-39N									



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59	8	5.7B Top	4.200 0.580	INDUCTOR AIAC-1812	L37A	39nH	AIAC-1812-39N									
61	8	5.7B Top	3.500 0.600	N/A Not Applicable IND_0.3	L33	N/A	Do NOT Install									
61	8	5.7B Top	3.850 0.645	N/A Not Applicable IND_0.3	L35	N/A	Do NOT Install									
61	8	5.7B Top	4.200 0.580	N/A Not Applicable IND_0.3	L37	N/A	Do NOT Install									
65	8	2.2E Bot	4.020 1.830	IC CURRENT MONITOR SOT23F-3	Q2	ZXCT1009	ZXCT1009FTA									
66	8	2.7D Top	2.390 2.245	MOSFET N-CHANNEL 1.8A/30V SOT23-3	Q1	ZXMN3A01	ZXMN3A01FTA									
66	8	2.8D Bot	0.235 1.280	MOSFET N-CHANNEL 1.8A/30V SOT23-3	Q5	ZXMN3A01	ZXMN3A01FTA									
67	8	2.2E Bot	4.210 1.810	SENSE RESISTOR SM1206	R55	.050	ERJ-8BWFR050V									
68	8	3.5B Top	4.040 2.325	RES Jumper SM0603-3	R26	0	M55342									
69	8	2.4D Top	2.065 2.330	RES Jumper SM0603	R5	0	M55342									
70	8	4.8B Bot	2.535 1.140	RES THK-FLM SM0603	R37	1.54K	M55342K12B1E54TW									
70	8	4.3D Bot	3.160 1.680	RES THK-FLM SM0603	R44	1.54K	M55342K12B1E54TW									
71	8	2.2F Bot	3.825 1.830	RES THK-FLM SM0805	R51	10.0K	M55342K06B10E0TW									
72	8	2.8E Bot	0.555 1.595	RES THK-FLM SM0603	R12	10.0K	M55342K12B10E0TW									
72	8	3.9C Top	0.888 0.555	RES THK-FLM SM0603	R16	10.0K	M55342K12B10E0TW									
72	8	3.2D Top	3.645 1.701	RES THK-FLM SM0603	R17	10.0K	M55342K12B10E0TW									
72	8	3.3C Top	3.668 1.960	RES THK-FLM SM0603	R19	10.0K	M55342K12B10E0TW									
72	8	2.3D Bot	2.123 2.355	RES THK-FLM SM0603	R2	10.0K	M55342K12B10E0TW									





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Schematic: 102-73181.10

Idx #	Pg #	Comp S/N as needed	Component MIT	Part Type	Ref Des	Part Value	Flight Part Number	Kit by	Value Ver	Insp by	Lead Form	Insp by	Tinned by	Insp by	Appl by	Insp by
72	9	4.7E Bot	1.108 1.475	RES THK-FLM SM0603	R20	10.0K	M55342K12B10E0TW									
72	9	3.2A Bot	0.477 0.965	RES THK-FLM SM0603	R21	10.0K	M55342K12B10E0TW									
72	9	3.3C Top	3.355 2.088	RES THK-FLM SM0603	R23	10.0K	M55342K12B10E0TW									
72	9	3.3C Top	3.668 1.865	RES THK-FLM SM0603	R24	10.0K	M55342K12B10E0TW									
72	9	3.3B Top	3.288 2.255	RES THK-FLM SM0603	R25	10.0K	M55342K12B10E0TW									
72	9	3.5B Bot	3.815 2.045	RES THK-FLM SM0603	R28	10.0K	M55342K12B10E0TW									
72	9	2.3D Bot	1.982 2.355	RES THK-FLM SM0603	R3	10.0K	M55342K12B10E0TW									
72	9	2.6D Top	1.495 2.100	RES THK-FLM SM0603	R31	10.0K	M55342K12B10E0TW									
72	9	2.3D Bot	1.792 2.355	RES THK-FLM SM0603	R4	10.0K	M55342K12B10E0TW									
72	9	3.3F Bot	1.955 0.845	RES THK-FLM SM0603	R50	10.0K	M55342K12B10E0TW									
72	9	3.2B Bot	4.075 1.100	RES THK-FLM SM0603	R65	10.0K	M55342K12B10E0TW									
72	9	2.6C Top	0.815 1.820	RES THK-FLM SM0603	R7	10.0K	M55342K12B10E0TW									
72	9	2.5B Bot	1.358 2.300	RES THK-FLM SM0603	R8	10.0K	M55342K12B10E0TW									
72	9	5.2C Bot	2.905 0.395	RES THK-FLM SM0603	R85	10.0K	M55342K12B10E0TW									
73	9	2.5B Bot	1.190 2.235	RES THK-FLM SM0603	R29	100K	M55342K12B100ETW									
73	9	2.5C Bot	1.055 2.165	RES THK-FLM SM0603	R30	100K	M55342K12B100ETW									
73	9	4.3B Bot	3.375 1.395	RES THK-FLM SM0603	R38	100K	M55342K12B100ETW									
73	9	4.3B Bot	3.375 1.215	RES THK-FLM SM0603	R48	100K	M55342K12B100ETW									



# MATERIAL BUILD RECORD

Department of  
Physics & Astronomy

Project: G2\_FOX\_TRANSMITTER  
Assembly: 102-73181

KC0JFQ\_DRA818\_LQFP64

Board: 102-73181.10  
Schematic: 102-73181.10

Idx #	Pg #	Comp S/N as needed	Component MIT	Part Type	Ref Des	Part Value	Flight Part Number	Kit by	Value Ver	Insp by	Lead Form	Insp by	Tinned by	Insp by	Appl by	Insp by
75	10	3.3D Top	1.385 1.865	RES THK-FLM SMR0805	R53	10	M55342K06B10D0TW									
76	10	3.4D Top	4.100 1.480	RES THK-FLM SMR0603-41	R1	10	M55342K12B110DTW									
76	10	3.2B Top	3.475 2.605	RES THK-FLM SMR0603-41	R15	10	M55342K12B110DTW									
76	10	3.2B Top	3.475 2.605	RES THK-FLM SMR0603-41	R18	10	M55342K12B110DTW									
76	10	3.2C Bot	4.315 1.245	RES THK-FLM SMR0603-41	R22	10	M55342K12B110DTW									
76	10	3.2C Bot	4.315 1.245	RES THK-FLM SMR0603-41	R64	10	M55342K12B110DTW									
76	10	3.4D Top	4.100 1.480	RES THK-FLM SMR0603-41	R9	10	M55342K12B110DTW									
77	10	2.3E Bot	0.625 0.090	RES THK-FLM SMR0603	R35	15.0K	M55342K12B15E0TW									
77	10	2.5E Bot	2.220 1.185	RES THK-FLM SMR0603	R62	15.0K	M55342K12B15E0TW									
78	10	4.3C Top	2.935 1.835	RES THK-FLM SMR0805	R10	150K	M55342K06B150ETW									
78	10	4.3D Bot	3.160 1.810	RES THK-FLM SMR0805	R11	150K	M55342K06B150ETW									
78	10	3.1E Bot	0.210 2.765	RES THK-FLM SMR0805	R60	150K	M55342K06B150ETW									
79	10	4.5E Bot	2.350 2.570	RES THK-FLM SMR0805	R57	220K	M55342K06B221ETW									
80	10	5.2E Bot	3.030 0.785	RES THK-FLM SMR0603	R94	24.3K	M55342K12B24E3TW									
81	10	4.2D Bot	2.050 1.565	RES THK-FLM SMR0603	R54	3.3K	M55342K12B3E32TW									
82	10	3.3D Top	3.910 1.700	RES THK-FLM SMR0603-3	R13	4.99K	M55342K12B4E99TW									
83	10	3.3D Top	3.695 1.355	RES THK-FLM SMR0603	R14	4.99K	M55342K12B4E99TW									
83	10	3.5B Bot	3.950 2.290	RES THK-FLM SMR0603	R27	4.99K	M55342K12B4E99TW									



# MATERIAL BUILD RECORD

Department of  
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Project: G2\_FOX\_TRANSMITTER  
Assembly: 102-73181

KC0JFQ\_DRA818\_LQFP64

Board: 102-73181.10  
Schematic: 102-73181.10

Idx #	Pg #	Comp S/N as needed	Component MIT	Part Type	Ref Des	Part Value	Flight Part Number	Kit by	Value Ver	Insp by	Lead Form	Insp by	Tinned by	Insp by	Appl by	Insp by
83	11	3.1E Bot	2.125 1.925	RES THK-FLM SM0603	R33	4.99K	M55342K12B4E99TW									
83	11	3.1E Bot	2.255 1.715	RES THK-FLM SM0603	R34	4.99K	M55342K12B4E99TW									
83	11	2.3F Bot	1.860 0.145	RES THK-FLM SM0603	R36	4.99K	M55342K12B4E99TW									
83	11	2.8C Top	2.735 2.325	RES THK-FLM SM0603	R40	4.99K	M55342K12B4E99TW									
83	11	3.2A Bot	3.335 2.565	RES THK-FLM SM0603	R46	4.99K	M55342K12B4E99TW									
83	11	4.2D Top	2.760 1.910	RES THK-FLM SM0603	R47	4.99K	M55342K12B4E99TW									
83	11	4.4E Bot	2.465 2.745	RES THK-FLM SM0603	R56	4.99K	M55342K12B4E99TW									
83	11	2.5F Bot	1.990 1.200	RES THK-FLM SM0603	R63	4.99K	M55342K12B4E99TW									
85	11	4.8B Bot	2.575 1.275	RES THK-FLM SM0603	R32	475.	M55342K12B475DTW									
85	11	2.8D Bot	0.292 0.403	RES THK-FLM SM0603	R43	475.	M55342K12B475DTW									
85	11	5.2A Top	2.450 1.220	RES THK-FLM SM0603	R49	475.	M55342K12B475DTW									
85	11	2.8D Bot	0.260 1.555	RES THK-FLM SM0603	R58	475.	M55342K12B475DTW									
85	11	2.7D Top	1.680 2.130	RES THK-FLM SM0603	R59	475.	M55342K12B475DTW									
86	11	3.1E Top	0.625 0.083	RES THK-FLM SM0805	R61	680K	M55342K06B681ETW									
87	11	2.8C Top	2.945 2.325	N/A Not Applicable SM0603	R41	N/A 10.0K	Do NOT Install									
87	11	3.3B Top	3.885 1.085	N/A Not Applicable SM0603	R66	N/A 10.0K	Do NOT Install									
87	11	3.2C Top	3.885 1.360	N/A Not Applicable SM0603	R67	N/A 10.0K	Do NOT Install									
88	11	2.8C Bot	3.160 2.410	N/A Not Applicable SM0603	R42	N/A 100K	Do NOT Install									



Project: G2\_FOX\_TRANSMITTER  
Assembly: 102-73181

# MATERIAL BUILD RECORD

Department of  
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KC0JFQ\_DRA818\_LQFP64

Board: 102-73181.10

Schematic: 102-73181.10

Idx #	Pg #	Comp S/N as needed	Component MIT	Part Type	Ref Des	Part Value	Flight Part Number	Kit by	Value Ver	Insp by	Lead Form	Insp by	Tinned by	Insp by	Appl by	Insp by
89	12	5.8B Bot	4.330 0.490	N/A Not Applicable SM0805	R39	N/A 49.9	Do NOT Install									
90	12	3.4D Bot	1.810 1.875	N/A Not Applicable SM0603	R52	N/A	Do NOT Install									
91	12	2.8C Bot	3.035 2.295	N/A Not Applicable SM0805	R45	N/A	Do NOT Install									
91	12	2.4D Top	1.750 2.330	N/A Not Applicable SM0805	R6	N/A	Do NOT Install									
92	12	2.2D Top	4.510 1.675	PCB SWITCH SPDT R/A ON-ON SW_ET_A	SW2	ET01MD1ABE	ET01MD1ABE									
93	12	2.6B Top	1.052 2.527	SWITCH PUSH BUTTON SW_KMR2	SW1B	KMR221	KMR221NG-LFS									
94	12	2.6C Top	1.103 2.575	N/A Not Applicable SW_KS11	SW1	N/A KS11	Do NOT Install									
95	12	4.2D Top	3.070 1.765	TEST POINT LOOP TP0135	TP4	5015	5015									
95	12	4.1C Top	3.540 1.100	TEST POINT LOOP TP0135	TP9	5015	5015									
101	12	4.9B Bot	2.575 0.990	LOGIC GATE INVERT SOT23-5	U9	74LVC1G04	74LVC1G04W5-7									
102	12	2.5C Top	1.153 2.210	LOGIC GATE AND SOT23-6	U7	74LVC1G11	SN74LVC1G11DBVR									
103	12	3.4D Top	1.100 1.920	LOGIC GATE TRI STATE SOT23-5	U10	74LVC1G126	SN74LVC1G126DBVR									
104	12	3.3E Top	3.783 1.560	LOGIC GATE OD SOT23-6	U5	74LVC2G07	SN74LVC2G07DBVR									
105	12	3.2C Top	3.995 1.250	LOGIC GATE ST SOT23-6	U1	74LVC2G17	SN74LVC2G17DBVR									
106	12	3.8D Top	1.138 0.535	SERIAL FRAM SO8_209	U3	CY15B128Q	CY15B128Q-SXA									
108	12	3.2F Top	1.070 0.240	TOY CLOCK BINARY SO8	U8	DS1672	DS1672S-3+									
109	12	5.2B Top	2.350 1.015	INTERFACE SOT23-5	U11	FIN1000	FIN1001M5X									
110	12	3.4B Top	3.668 2.235	USB UART SSOP28	U6	FT232RL	FT232RL-REEL									





# NON-POPULATED and NON-PARTS (do not fill in this sheet)

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Project: G2\_FOX\_TRANSMITTER

KC0JFQ\_DRA818\_LQFP64

Assembly: 102-73181

Board: 102-73181.10

Schematic: 102-73181.10

	Idx #	Pg #	Comp S/N as needed	Component MIT	Part Type	Ref Des	Part Value	Flight Part Number	Kit by	Value Ver	Insp by	Lead Form	Insp by	Tinned by	Insp by	Appl by	Insp by
6	229	14	1.6F Top	-3.950 -1.950	Documentation Artifact	BRD4	DRAWING FRAME	VP: Documentation Artifact									
7	230	14	1.6F Top	7.000 -1.950	Documentation Artifact	BRD3	DRAWING FRAME	VP: Documentation Artifact									
8	231	14	1.6F Bot	4.737 1.462	Documentation Artifact	BRD6	DRAWING FRAME	VP: Documentation Artifact									
9	232	14	1.7F Top	0.000 0.000	Documentation Artifact	BRD5	DRAWING FRAME	VP: Documentation Artifact									
27	233	14	4.7C Top	2.660 1.415	Pad	CLK2	PAD	VP: Not a Physical Part									
37	234	14	1.7E Top	0.243 1.505	Documentation Artifact	ESD1	DRAWING FRAME	VP: Documentation Artifact									
38	235	14	2.2D Bot	4.370 1.730	Invalid Flight Part(1)	F1	MFU0603FF00800	Invalid Flight Part (see schematic)									
41	236	14	1.7D Top	3.250 4.100	Invalid Flight Part(1)	HW2	24434	Invalid Flight Part (see schematic)									
41	237	14	1.7D Top	3.050 4.100	Invalid Flight Part(1)	HW6	24434	Invalid Flight Part (see schematic)									
42	238	14	1.7D Top	2.400 4.550	Invalid Flight Part(1)	HW12	M2.55MPP188	Invalid Flight Part (see schematic)									
42	239	14	1.7D Top	2.400 3.750	Invalid Flight Part(1)	HW13	M2.55MPP188	Invalid Flight Part (see schematic)									
43	240	14	1.7D Top	3.250 4.550	Invalid Flight Part(1)	HW1	RM3X6MM 2701	Invalid Flight Part (see schematic)									
43	241	14	1.7D Top	3.250 3.750	Invalid Flight Part(1)	HW3	RM3X6MM 2701	Invalid Flight Part (see schematic)									
43	242	14	1.7D Top	3.050 4.550	Invalid Flight Part(1)	HW5	RM3X6MM 2701	Invalid Flight Part (see schematic)									
43	243	14	1.7D Top	3.050 3.750	Invalid Flight Part(1)	HW7	RM3X6MM 2701	Invalid Flight Part (see schematic)									
60	244	14	1.7F Top	3.848 2.515	Documentation Artifact	LOGO1	DRAWING FRAME	VP: Documentation Artifact									
62	245	14	1.7B Top	0.000 0.000	Invalid Flight Part(1)	PCB1	102-73181-10	Invalid Flight Part (see schematic)									
63	246	14	1.10F Top	-3.765 5.460	Documentation Artifact	PWA1	DRAWING FRAME	VP: Documentation Artifact									



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Project: G2\_FOX\_TRANSMITTER

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Assembly: 102-73181

Board: 102-73181.10

Schematic: 102-73181.10

	Idx #	Pg #	Comp S/N as needed	Component MIT	Part Type	Ref Des	Part Value	Flight Part Number	Kit by	Value Ver	Insp by	Lead Form	Insp by	Tinned by	Insp by	Appl by	Insp by
64	247	15	1.10E Top	-3.745 5.440	Documentation Artifact	PWB1	DRAWING FRAME	VP: Documentation Artifact									
74	248	15	5.5B Top	2.075 0.000	Invalid Flight Part(1)	RF_DB	102-73181-24	Invalid Flight Part (see schematic)									
84	249	15	5.2D Bot	2.745 0.670	Invalid Flight Part(1)	R68	475.	Invalid Flight Part (see schematic)									
96	250	15	5.5C Top	4.650 0.600	Pad	TP13	6049	VP: Not a Physical Part									
97	251	15	5.6C Top	4.400 0.760	Pad	TP14	6050	VP: Not a Physical Part									
97	252	15	5.6C Top	4.600 0.760	Pad	TP17	6050	VP: Not a Physical Part									
98	253	15	3.1F Top	2.060 0.320	Pad	TP15	PAD	VP: Not a Physical Part									
98	254	15	3.4F Top	0.670 0.200	Pad	TP2	PAD	VP: Not a Physical Part									
98	255	15	3.4F Top	0.670 0.360	Pad	TP3	PAD	VP: Not a Physical Part									
99	256	15	2.1E Top	0.125 1.750	Pad	TIE1	PAD	VP: Not a Physical Part									
99	257	15	2.1E Top	0.375 1.750	Pad	TIE2	PAD	VP: Not a Physical Part									
99	258	15	2.1E Top	0.375 1.435	Pad	TIE3	PAD	VP: Not a Physical Part									
99	259	15	2.1E Top	0.125 1.435	Pad	TIE4	PAD	VP: Not a Physical Part									
99	260	15	5.2F Top	3.285 0.280	Pad	TP10	PAD	VP: Not a Physical Part									
99	261	15	5.2F Top	3.750 1.240	Pad	TP11	PAD	VP: Not a Physical Part									
99	262	15	5.2F Top	3.165 1.930	Pad	TP12	PAD	VP: Not a Physical Part									
99	263	15	3.1F Top	1.670 0.320	Pad	TP16	PAD	VP: Not a Physical Part									
99	264	15	5.2F Top	4.800 0.600	Pad	TP18	PAD	VP: Not a Physical Part									

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## Physics & Astronomy

**Project:** G2\_FOX\_TRANSMITTER

KC0JFQ\_DRA818\_LQFP64

**Assembly:** 102-73181

**Board:** 102-73181.10

**Schematic:** 102-73181.10

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