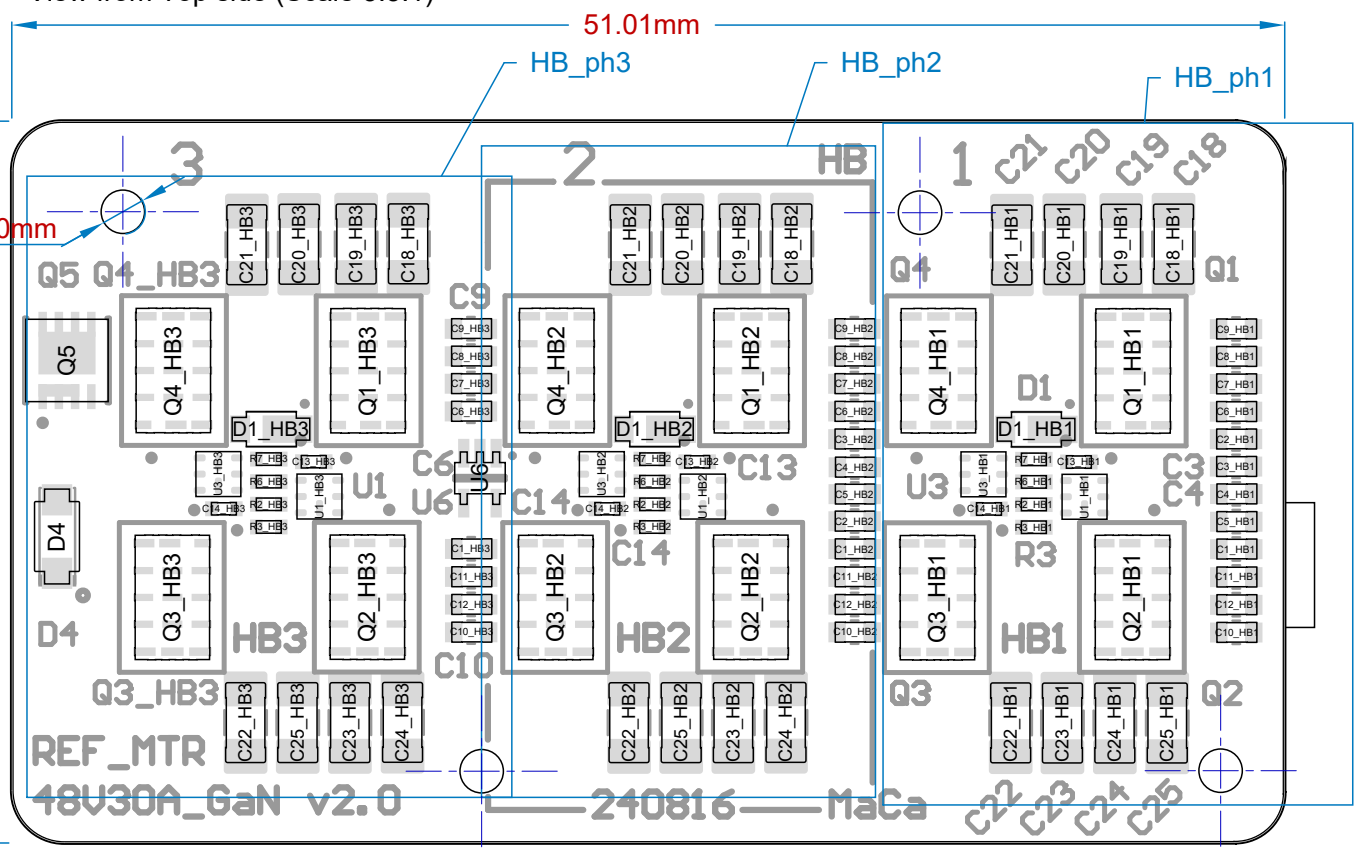
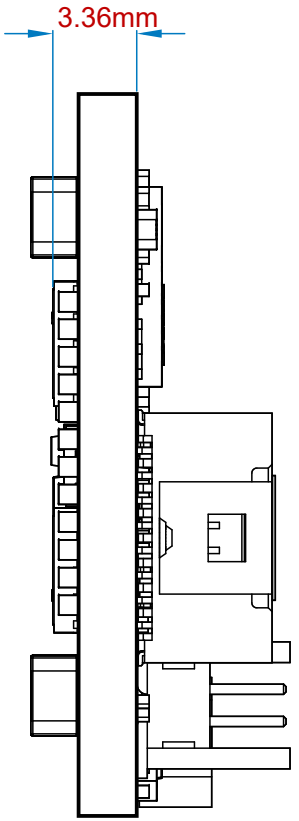
View from Top side (Scale 3.3:1)



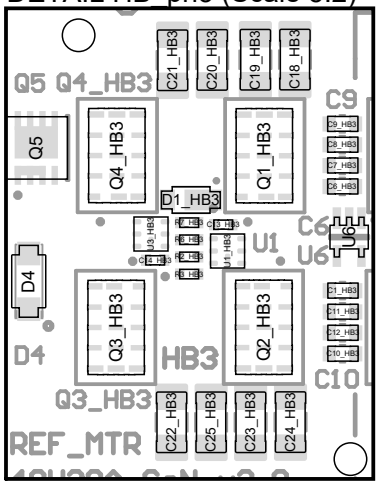


View from Left side (Scale 3.3:1)

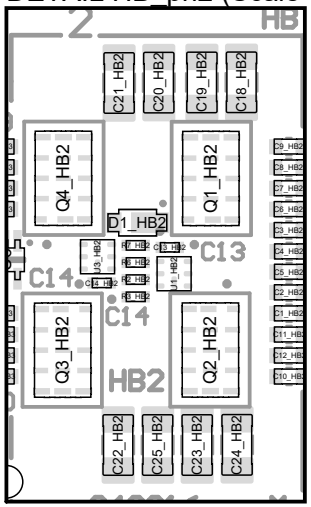


View from Right side (Scale 3.3:1)

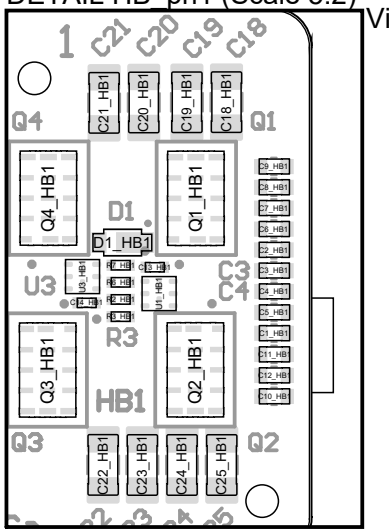
DETAIL HB_ph3 (Scale 5:2)



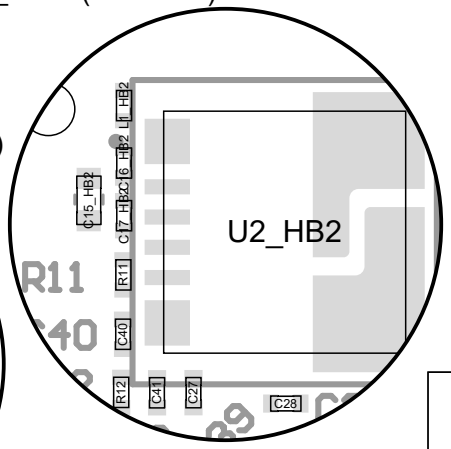
DETAIL HB_ph2 (Scale 5:2)



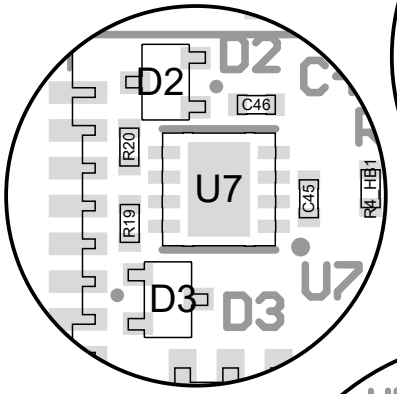
DETAIL HB_ph1 (Scale 5:2)



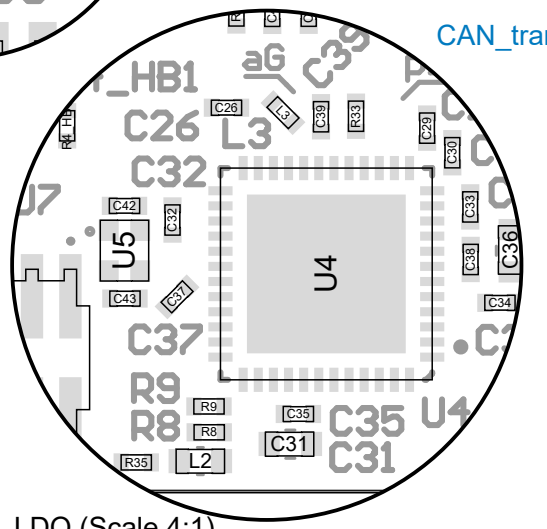
DETAIL HALL_SEN. (Scale 4:1)



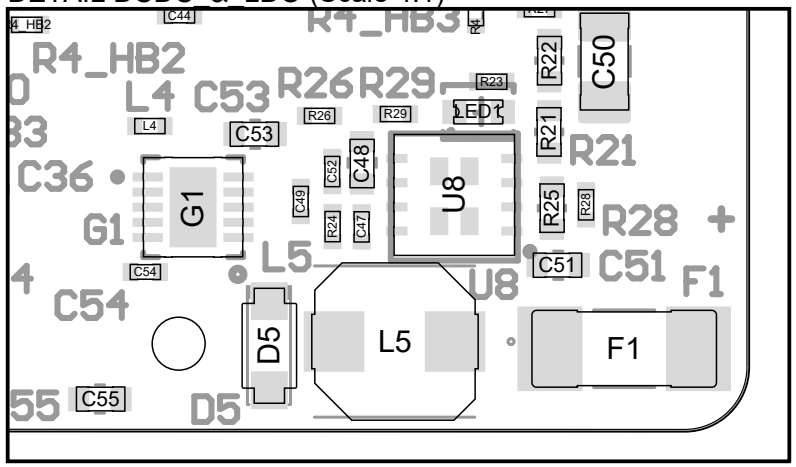
DETAIL CAN_tran. (Scale 5:1)



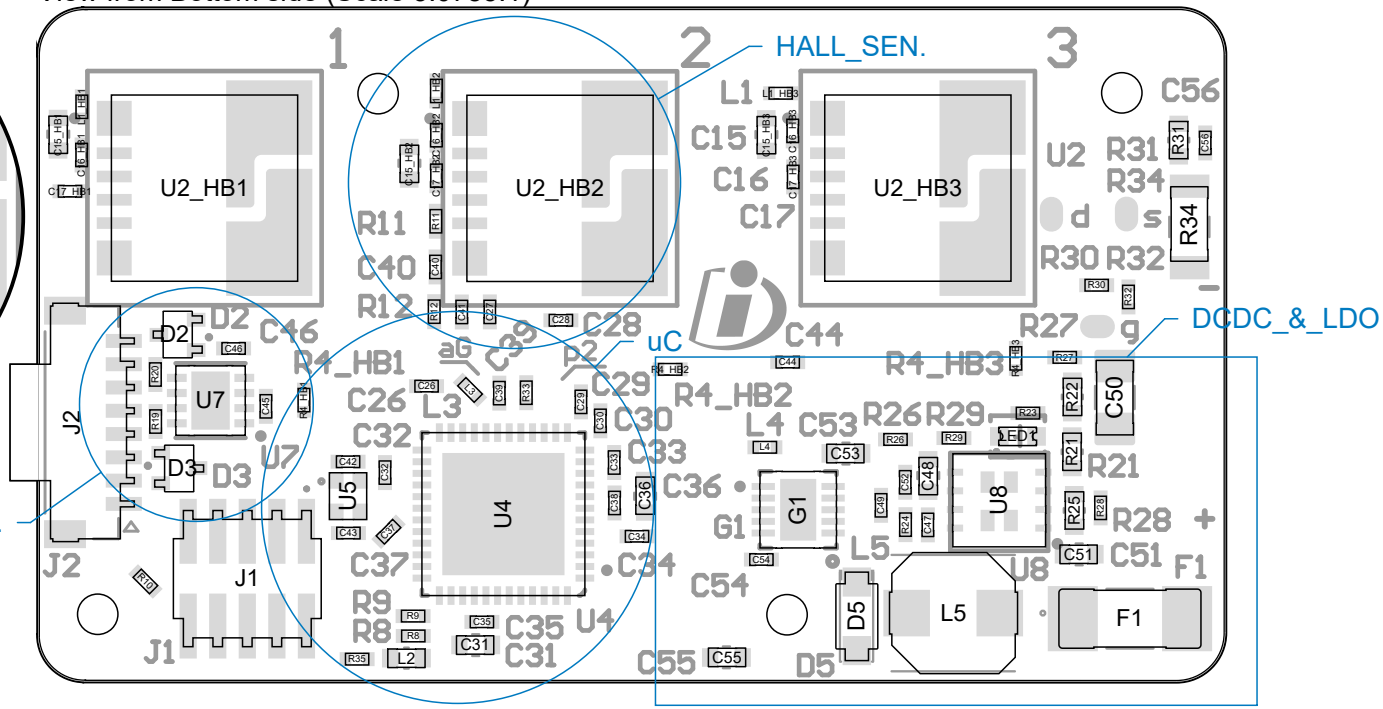
DETAIL uC (Scale 4:1)



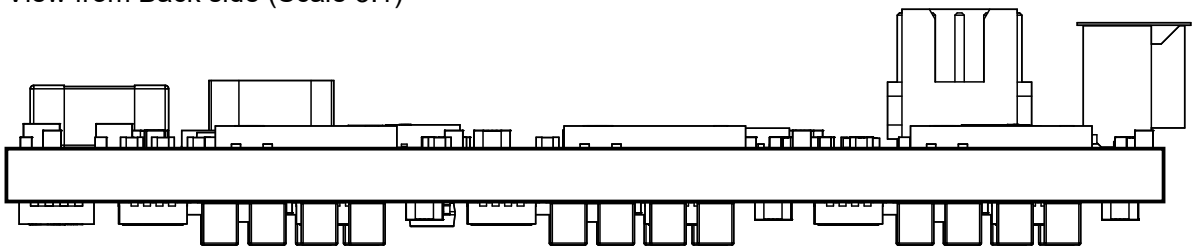
DETAIL DCDC_&_LDO (Scale 4:1)



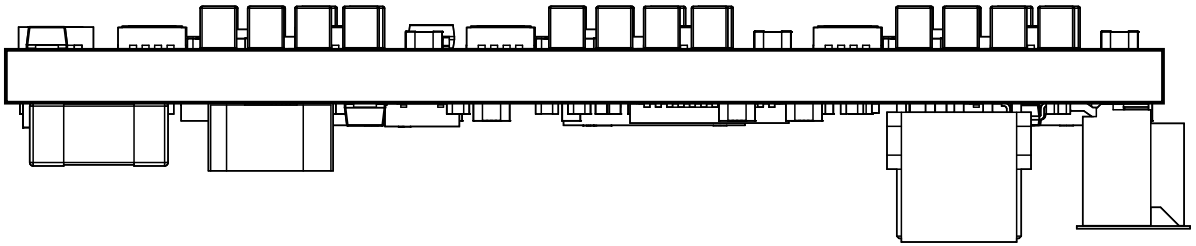
View from Bottom side (Scale 3.0785:1)



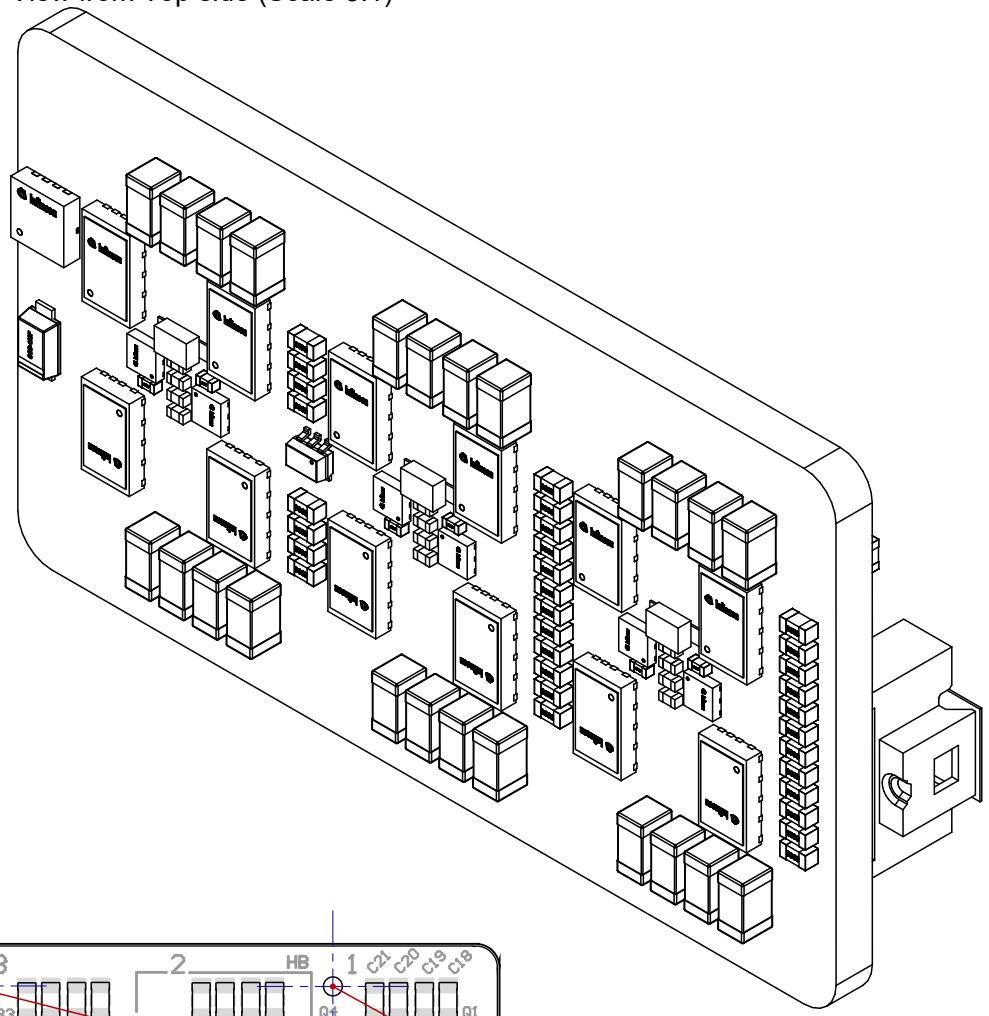
View from Back side (Scale 3:1)



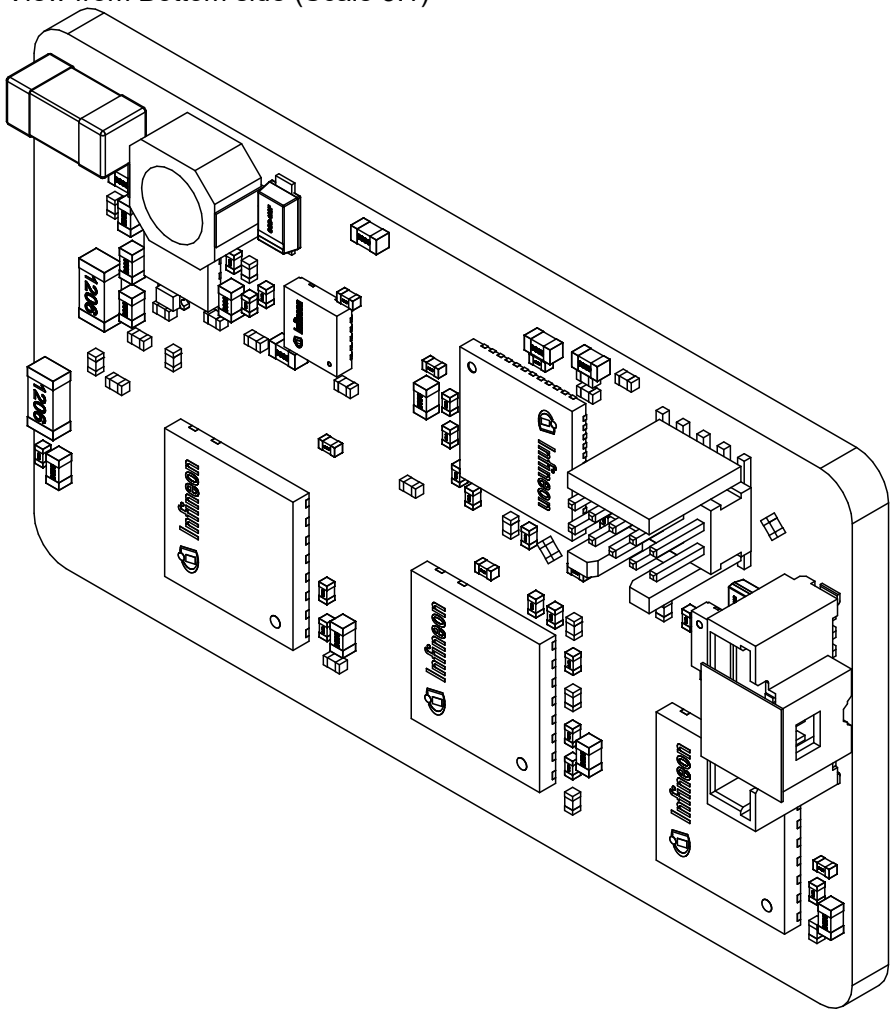
View from Front side (Scale 3:1)

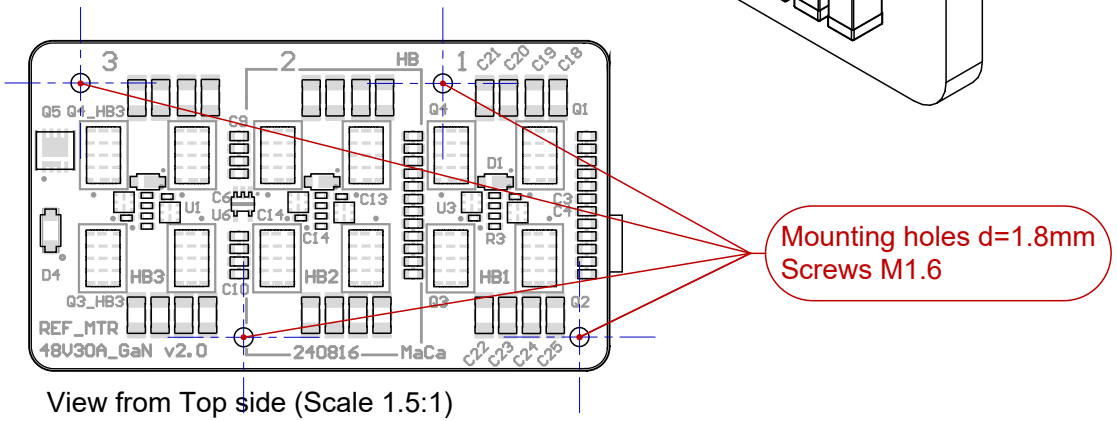


View from Top side (Scale 3:1)



View from Bottom side (Scale 3:1)

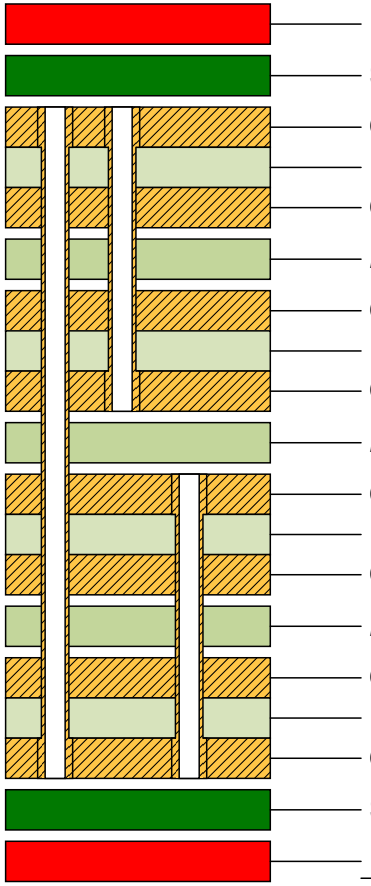




View from Top side (Scale 1.5:1)

Specification:
-Capped vias, except test via (see the last page)
-White silk screen
-Blue solder mask
-ENIG finish
-100µm stencil thickness

Layer Stack Legend



Material	Layer	Thickness	Dielectric Material	Type	Gerber
	Top Overlay			Legend	GTO
Surface Material	Top Solder	0.035mm	SM-003	Solder Mask	GTS
CF-005	**Top**	**0.070mm**		**Signal**	**GTL**
Core		*0.080mm*	*Core-010*	*Dielectric*	
CF-005	**pGND**	**0.070mm**		**Signal**	**G1**
Prepreg		*0.350mm*	*PCL370HR*	*Dielectric*	
CF-005	**ph_Vbat_pGND**	**0.070mm**		**Signal**	**G2**
Core		*0.120mm*	*Core-010*	*Dielectric*	
CF-005	**ph_pGND_Vbat**	**0.070mm**		**Signal**	**G3**
Prepreg		*0.600mm*	*PCL370HR*	*Dielectric*	
CF-005	**pGND_shi**	**0.070mm**		**Signal**	**G4**
Core		*0.120mm*	*Core-010*	*Dielectric*	
CF-005	**GND_analog**	**0.070mm**		**Signal**	**G5**
Prepreg		*0.350mm*	*PCL370HR*	*Dielectric*	
CF-005	**GND**	**0.070mm**		**Signal**	**G6**
Core		*0.080mm*	*Core-010*	*Dielectric*	
CF-005	**Bottom**	**0.070mm**		**Signal**	**GBL**
Surface Material	Bottom Solder	0.035mm	SM-003	Solder Mask	GBS
	Bottom Overlay			Legend	GBO

Total thickness: 2.330mm

Drill Table

Symbol	Count	Hole Size	Plated	Hole Tolerance
⌖	1311	0.20mm	Plated	
⊠	4	1.80mm	Plated	
	1315 Total			

Bill Of Materials

Line #	Designator	Value	Tolerance	Voltage	Footprint	Manufacturer	Manufacturer Part Number	Comment	Quantity
1	C1_HB1, C1_HB2, C1_HB3, C2_HB1, C2_HB2, C2_HB3, C3_HB1, C3_HB2, C3_HB3, C4_HB1, C4_HB2, C4_HB3, C5_HB1, C5_HB2, C5_HB3, C6_HB1, C6_HB2, C6_HB3	220 nF	10%	100V	CAP0603R	Taiyo Yuden	HMK107C7224KAHTE	C_Ceramic	18
2	C7_HB1, C7_HB2, C7_HB3, C8_HB1, C8_HB2, C8_HB3, C9_HB1, C9_HB2, C9_HB3, C10_HB1, C10_HB2, C10_HB3, C11_HB1, C11_HB2, C11_HB3, C12_HB1, C12_HB2, C12_HB3, C16_HB1, C16_HB2, C16_HB3, C17_HB1, C17_HB2, C17_HB3, C32, C33, C34, C35, C37, C38, C39, C44, C45, C46, C47, C52	100 nF	10%	100 V, 16 V, 25 V	CAP0603R, CAP0402R	Murata	GCJ188L8EL104KA07D, GCM155R71C104KA55D, GRM155R71E104KE14D	C_Ceramic	36
3	C13_HB1, C13_HB2, C13_HB3, C14_HB1, C14_HB2, C14_HB3	2.2 uF	20%	16 V	CAP0402R	Murata	GRM155D71C225ME11D	C_Ceramic	6
4	C15_HB1, C15_HB2, C15_HB3, C31, C55	10 uF	10%	10 V	CAP0603R	Murata	GRM188Z71A106KA73D	C_Ceramic	5
5	C18_HB1, C18_HB2, C18_HB3, C19_HB1, C19_HB2, C19_HB3, C20_HB1, C20_HB2, C20_HB3, C21_HB1, C21_HB2, C21_HB3, C22_HB1, C22_HB2, C22_HB3, C23_HB1, C23_HB2, C23_HB3, C24_HB1, C24_HB2, C24_HB3, C25_HB1, C25_HB2, C25_HB3	4.7 uF	20%	100V	CAP1206R_1.8MM	Murata	GRJ31CC72A475KE01K	C_Ceramic	24
6	C26, C27, C28, C29, C30, C56	10 nF	10%	16 V, 100 V	CAP0402R	Murata, TDK	GRM155R71C103KA01D, C1005X7S2A103K050BB	C_Ceramic	6
7	C36	4.7 uF	10%	16 V	CAP0603R	Murata	GRT188C71C475KE13D	C_Ceramic	1
8	C40, C41	1 nF	10%	25 V	CAP0402R	Samsung	CL05B102KA5NNWC	C_Ceramic	2
9	C42, C43	20 pF	5%	16 V	CAP0402R	AVX	0402YA200JAT2A	C_Ceramic	2
10	C48	1 µF	10%	25 V	CAP0603R	Murata	GCM188R71E105KA64J	C_Ceramic	1
11	C49	3.3 nF	10%	25 V	CAP0402R	AVX	04023C332KAT2A	C_Ceramic	1
12	C50	4.7 uF	20%	100V	CAP1206R	Murata	GRJ31CC72A475KE01K	Capacitor Ceramic	1
13	C51	220 nF	10%	100V	CAP0603R	Taiyo Yuden	HMK107C7224KAHTE	Capacitor Ceramic	1

Bill Of Materials

Line #	Designator	Value	Tolerance	Voltage	Footprint	Manufacturer	Manufacturer Part Number	Comment	Quantity
14	C53	2.2 µF	10%	25 V	CAP0603R	Murata	GRM188C71E225KE11D	C_Ceramic	1
15	C54	10 nF	10%	16 V	CAP0402R	Murata	GRT155R71C103KE01J	C_Ceramic	1
16	D1_HB1, D1_HB2, D1_HB3	RB578VYM100FHTR			TDZVTR51	ROHM Semiconductor	RB578VYM100FHTR	RB578VYM100FHTR	3
17	D2, D3	BAT 54-04W			SOT65P210X100-3N-1-V	Infineon	BAT 54-04W	BAT 54-04W	2
18	D4	TVS		64V	D_SOD123	littlefuse	TPSMF4L64A	D_Z	1
19	D5	5.6V		5.6 V	D_SOD123	Diodes Inc.	BZT52HC5V6WF-7	D_Z	1
20	F1	20A		72 V	FUSC6125X279N	Bel fuse	0ACA-9200-TE	Slow / Slow Blow	1
21	G1	TLS205B0LDV33			SON50P330X330X110-11N	Infineon	TLS205B0LDV33	TLS205B0LDV33	1
22	HS				Heatsink			Heatsink	1
23	J1	FTSH-105-01-L-DV-K			FTSH10501LDVK	Samtec	FTSH-105-01-L-DV-K	FTSH-105-01-L-DV-K	1
24	J2	2035560807			MOLEX_2035560807	Molex	2035560807	PicoClasp Hdr SMT SR	1
25	L1_HB1, L1_HB2, L1_HB3, L3, L4	150mA, 2.2kOhm @ 100MHz	25%		RES0402R	TDK	MMZ1005A222ET000	Ferrite	5
26	L2	300mA, 1.5 kOhm @ 100MHz	25%		RES0603R	TDK	MMZ1608Y152BTD25	Ferrite	1
27	L5	330 µH	20%		CLF5030NI-D	TDK	CLF5030NIT-331M-D	L	1
28	LED1	Green			LED_0603	Kingbright	APHD1608LZGCK	PWR ON	1
29	Q1_HB1, Q1_HB2, Q1_HB3, Q2_HB1, Q2_HB2, Q2_HB3, Q3_HB1, Q3_HB2, Q3_HB3, Q4_HB1, Q4_HB2, Q4_HB3	IQC03xG10LS1SC			PG-TSON-6-2	Infineon	IQC03xG10LS1SC	IGC033S10S1	12
30	Q5	ISZ022N06LM6			INF-PG-TSDSON-8-FL-1	Infineon	ISZ022N06LM6	ISZ022N06LM6	1
31	R2_HB1, R2_HB2, R2_HB3, R6_HB1, R6_HB2, R6_HB3, R7_HB1, R7_HB2, R7_HB3, R11, R12	47 kOhm	1%		RES0402R	Vishay	RCC040247K0FKED	R	11
32	R3_HB1, R3_HB2, R3_HB3	47 kOhm	1%		RES0402R	Vishay	RCC040247K0FKED	75V, 125mW	3
33	R4_HB1, R4_HB2, R4_HB3	22 Ohm	1%		RES0402R	Vishay	RCS040222R0FKED	50V, 200mW	3
34	R8	1 kOhm	1%		RES0402R	Vishay	RCS04021K00FKED	50V,200mW	1
35	R9, R10, R19, R20	1 kOhm	1%		RES0402R	Vishay	RCS04021K00FKED	75V,125mW	4
36	R21	110 kOhm	1%		RES0603R	Panasonic	ERJPA3F1103V	150V, 250mW	1
37	R22	150 kOhm	1%	150V	RES0603R	Panasonic	ERJPA3F1503V	150V, 250mW	1
38	R23	470 Ohm	1%		RES0402R	Vishay	RCS0402470RFKED	R	1
39	R24	47 kOhm	1%		RES0402R	Vishay	RCC040247K0FKED	R	1
40	R25	270 kOhm	1%	150V	RES0603R	Panasonic	ERJPA3F2703V	150V, 250mW	1
41	R26	3 kOhm	1%		RES0402R	Vishay	RCS04023K00FKED	50V, 200mW	1
42	R27, R32	10 kOhm	1%	75V, [NoParam]	RES0402R	Vishay	RCC040210K0FKED	75V, 125mW	2
43	R28	10 kOhm	1%	75V	RES0402R	Vishay	RCC040210K0FKED	R	1

Bill Of Materials

Line #	Designator	Value	Tolerance	Voltage	Footprint	Manufacturer	Manufacturer Part Number	Comment	Quantity
44	R29	1 kOhm	1%		RES0402R	Vishay	RCS04021K00FKED	R	1
45	R30	820 Ohm	1%		RES0402R	Vishay	RCS0402820RFKED	50V, 200mW	1
46	R31	1 MOhm	1%		RES0603R	Vishay	RCC06031M00FKEA	150V, 200mW	1
47	R33	0 Ohm	1%		RES0402R	Vishay	RCS04020000Z0ED	50V, 200mW	1
48	R34	820 Ohm	1%		RES1206W	Vishay	CRCW1206820RFKEAHP	200V, 750mW	1
49	R35	2 Ohm	1%		RES0402R	Vishay	RCS04022R00FKED	R	1
50	S1, S2, S3, S4	M1.6x6			M1.6_6mm			SCREW	4
51	TIM	TG-A1780			TIM			51x29mm	1
52	U1_HB1, U1_HB2, U1_HB3, U3_HB1, U3_HB2, U3_HB3	1EDN7136U, 1EDN7126U			1EDN71X6U	Infineon	1EDN7126U	1EDN7126U, 1EDN7136U	6
53	U2_HB1, U2_HB2, U2_HB3	TLI4971 A050			INF-PG-TISON-8	Infineon	TLI4971-A050T5-E0001	TLI4971 A050	3
54	U4	XMC4200Q48K256BAXUMA1			QFN50P700X700X90-49N-8	Infineon	XMC4200Q48K256BAXUMA1	XMC4200Q48K256BAXUMA1	1
55	U5	16MHz	20 ppm		ECS-160-10-37-JTN-TR_ECS-M	ECS International	ECS-160-10-37-JTN-TR	ECS-160-10-37-JTN-TR	1
56	U6	MCP9700AT-E/LT			SOT65P210X110-5N	Microchip	MCP9700AT-E/LT	10 mv/C° max mesurable value 125C°	1
57	U7	TLT9251VLEXUMA1			SON65P300X300X110-9N	Infineon	TLT9251VLEXUMA1	TLT9251VLEXUMA1	1
58	U8	LM5017			WSON-8	Texas Instruments	LM5017SD/NOPB	LM5017	1

