



EFR32MG12 Dual Band Radio Board
2.4 GHz / 490 MHz 19 dBm, VMCU to PAVDD

Board Function	Page
Title Page	1
RF, Antenna & Power	2
EFR32 Signal Assignments	3
WSTK Connectors & Board ID	4

LEGAL NOTICE:
SILICON LABORATORIES INC. ("SILICON LABS") AND/OR ITS LICENSORS DO NOT WARRANT THE ACCURACY OR COMPLETENESS OF THIS SCHEMATIC OR ANY INFORMATION CONTAINED WITHIN THIS SCHEMATIC. IT IS PROVIDED "AS-IS" FOR REFERENCE ONLY. SILICON LABS DOES NOT WARRANT THAT THIS DESIGN WILL MEET THE SPECIFICATIONS, BE SUITABLE FOR YOUR APPLICATION OR FIT FOR ANY PARTICULAR PURPOSE, OR WILL OPERATE IN YOUR IMPLEMENTATION. SILICON LABS AND ITS LICENSORS DO NOT WARRANT THAT THE DESIGN IMPLIED IN THIS SCHEMATIC IS PRODUCTION-WORTHY. YOU SHOULD COMPLETELY VALIDATE AND TEST YOUR DESIGN IMPLEMENTATION TO CONFIRM SYSTEM FUNCTIONALITY FOR YOUR APPLICATION.

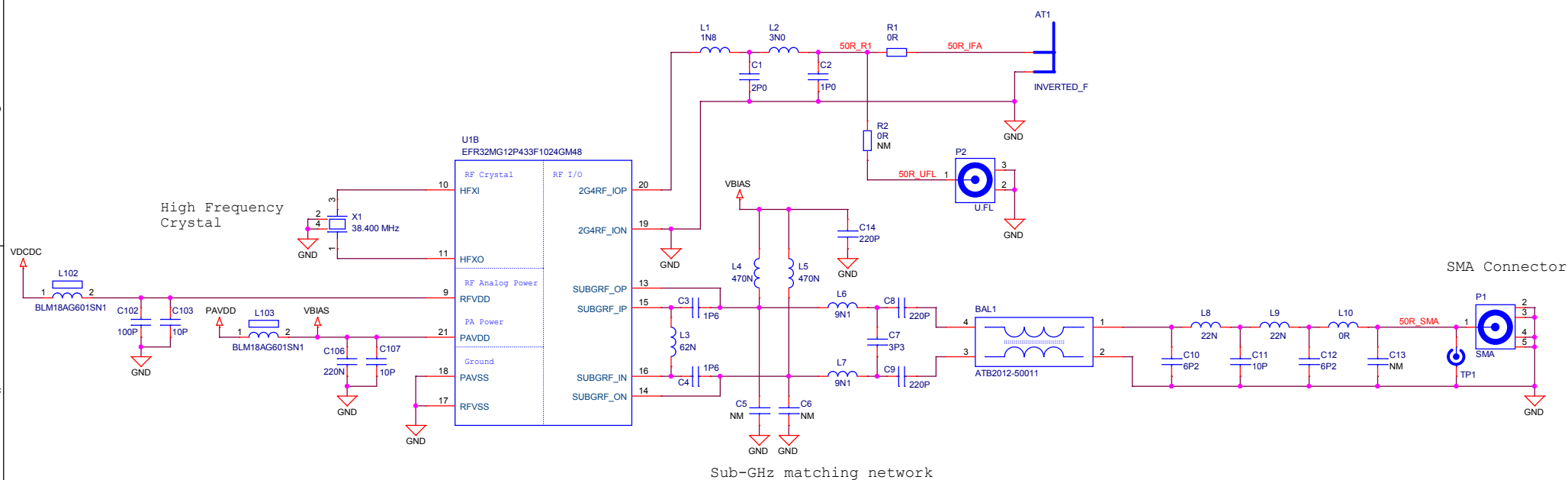


Revision History	
Rev.	Description
A00	Initial revision.

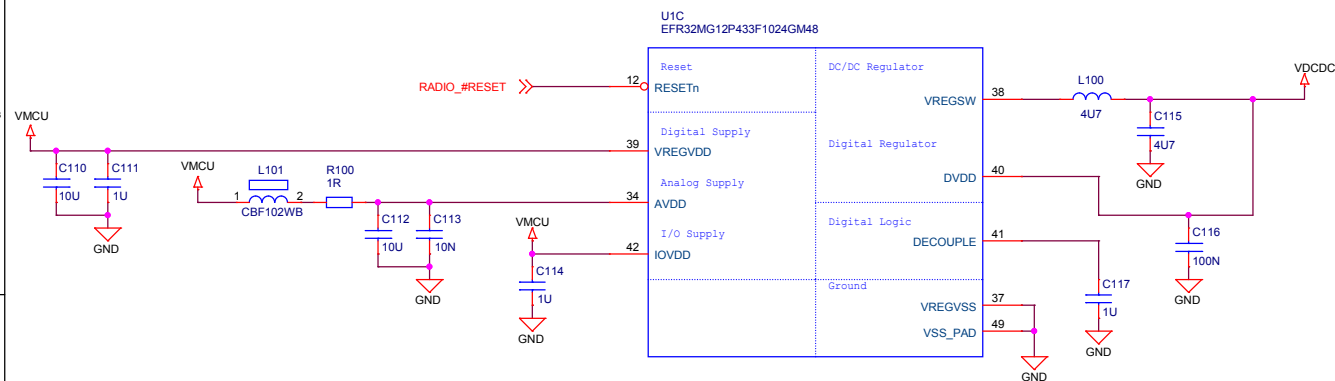
SCHEMATIC1

 SILICON LABS		Schematic Title	
		EFR32MG12 Dual Band 2400/490 MHz Radio Board	
Designed: <OrgAddr1>		Page Title	
Approved: <OrgAddr2>		Title Page	
Size A3	BOM Doc No: <Cage Code>	Document number BRD4172A	Revision A00
Design Created Date: Friday, November 03, 2017		Sheet Created Date Friday, November 03, 2017	Sheet Modified Date Tuesday, March 13, 2018
		Sheet 1 of 4	

Antenna & Radio Interface

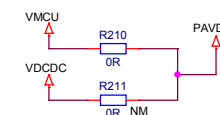


Power & Decoupling

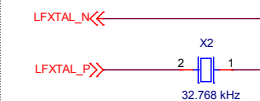


PAVDD Configuration

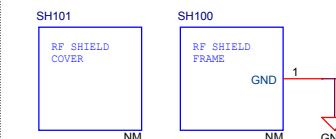
	Power Config 1 VMCU to PAVDD	Power Config 2 DCDC to PAVDD
R210	Mount	Not mount
R211	Not mount	Mount



Low Frequency Crystal



RF Shielding



SCHEMATIC1

		Schematic Title	
EFR32MG12 Dual Band 2400/490 MHz Radio Board		Page Title	
RF, Antenna and Power		Document number	
BRD4172A		Revision	
A00		Sheet	
2 of 4		Sheet Created Date	
Friday, November 03, 2017		Sheet Modified Date	
Tuesday, March 13, 2018		Design Created Date	
Friday, November 03, 2017		BOM Doc No:	
<OrgAddr1>		<OrgAddr2>	
Size		Approved:	
A3		<OrgAddr1>	
<Cage Code>		<OrgAddr2>	

[illegible]

I/O Port Pins

U1A
EFR32MG12P433F1024GM48

RADIO_PA[5..0] << PA0 / PA1 / PA2 / PA3 / PA4 / PA5 /

RADIO_PB[15..11] << PB11 / PB12 / PB13 / PB14 / LFXTAL_N PB15 / LFXTAL_P

RADIO_PC[11..6] << PC6 / PC7 / PC8 / PC9 / PC10 / PC11 /

RADIO_PD[15..13] << PD13 PD14 PD15

RADIO_PF[7..0] << PF0 / PF1 / PF2 / PF3 / PF4 / PF5 / PF6 / PF7 /

Serial Flash

FLASH_MOSI << D2
FLASH_SCLK << E1
FLASH_SCS << A3

VMCU

U100A
MX25R8035F
SI / SIO0 SO / SIO1
SCLK CS#
WP# / SIO2 RESET# / SIO3

C3 >> FLASH_MISO

R103
330K

U100B
MX25R8035F
VCC A1
GND B2

C124
100N

GND

SCHEMATIC1

Schematic Title
EFR32MG12 Dual Band 2400/490 MHz Radio

Page Title
I/O Port Connections

Designed: <OrgAddr1> Approved: <OrgAddr2>

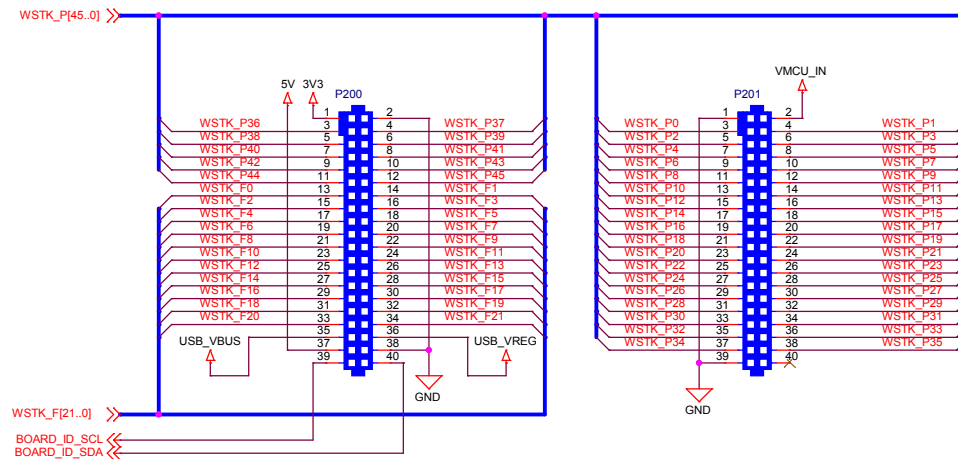
Size: A3 BOM Doc No: <Cage Code>

Document number
BRD4172A

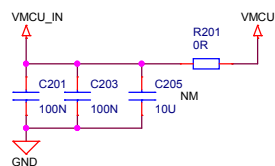
Revision
A00

Design Created Date: Friday, November 03, 2017 Sheet Created Date: Friday, November 03, 2017 Sheet Modified Date: Tuesday, March 13, 2018 Sheet 3 of 4

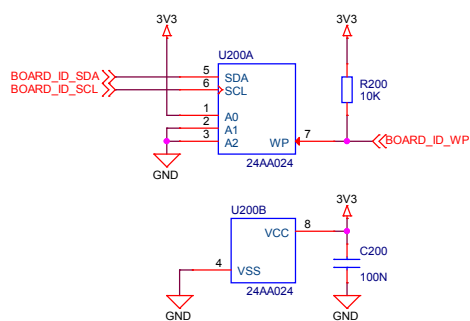
WSTK Connectors



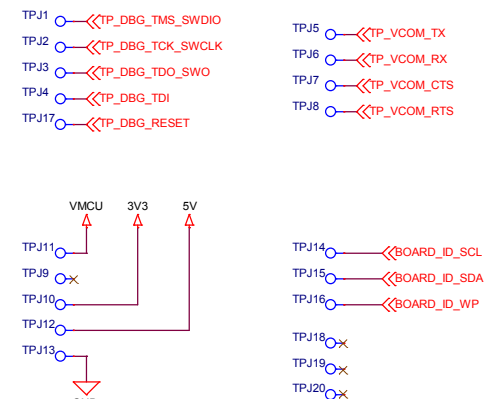
WSTK Power Decoupling



Board Identification



Test Points



SCHEMATIC1



Designed:	Approved:
-----------	-----------

<OrgAddr1>	<OrgAddr2>
------------	------------

Size	BOM Doc No:
A3	<Cage Code>

Design Created Date:

	Schematic Title
1	1.1
2	2.1
3	3.1
4	4.1
5	5.1
6	6.1
7	7.1
8	8.1
9	9.1
10	10.1
11	11.1
12	12.1
13	13.1
14	14.1
15	15.1
16	16.1
17	17.1
18	18.1
19	19.1
20	20.1
21	21.1
22	22.1
23	23.1
24	24.1
25	25.1
26	26.1
27	27.1
28	28.1
29	29.1
30	30.1
31	31.1
32	32.1
33	33.1
34	34.1
35	35.1
36	36.1
37	37.1
38	38.1
39	39.1
40	40.1
41	41.1
42	42.1
43	43.1
44	44.1
45	45.1
46	46.1
47	47.1
48	48.1
49	49.1
50	50.1
51	51.1
52	52.1
53	53.1
54	54.1
55	55.1
56	56.1
57	57.1
58	58.1
59	59.1
60	60.1
61	61.1
62	62.1
63	63.1
64	64.1
65	65.1
66	66.1
67	67.1
68	68.1
69	69.1
70	70.1
71	71.1
72	72.1
73	73.1
74	74.1
75	75.1
76	76.1
77	77.1
78	78.1
79	79.1
80	80.1
81	81.1
82	82.1
83	83.1
84	84.1
85	85.1
86	86.1
87	87.1
88	88.1
89	89.1
90	90.1
91	91.1
92	92.1
93	93.1
94	94.1
95	95.1
96	96.1
97	97.1
98	98.1
99	99.1
100	100.1

EFR32MG12 Dual Band 2400/490 MHz Radio Board

Page Title

WSTK Connectors & Board ID

Document number

BRD4172A

Sheet Created Date
Friday, November 03, 2017

	Revision
--	----------

A00

Sheet Modified Date Tuesday, March 13, 2018	Sheet 4 of
--	---------------