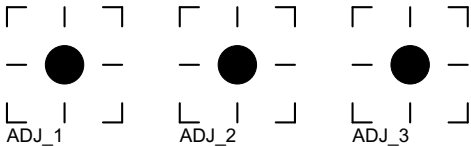# Hexagon Application Kit
Ethernet/CAN/RS485 Interface Card

COM_ETH-V1
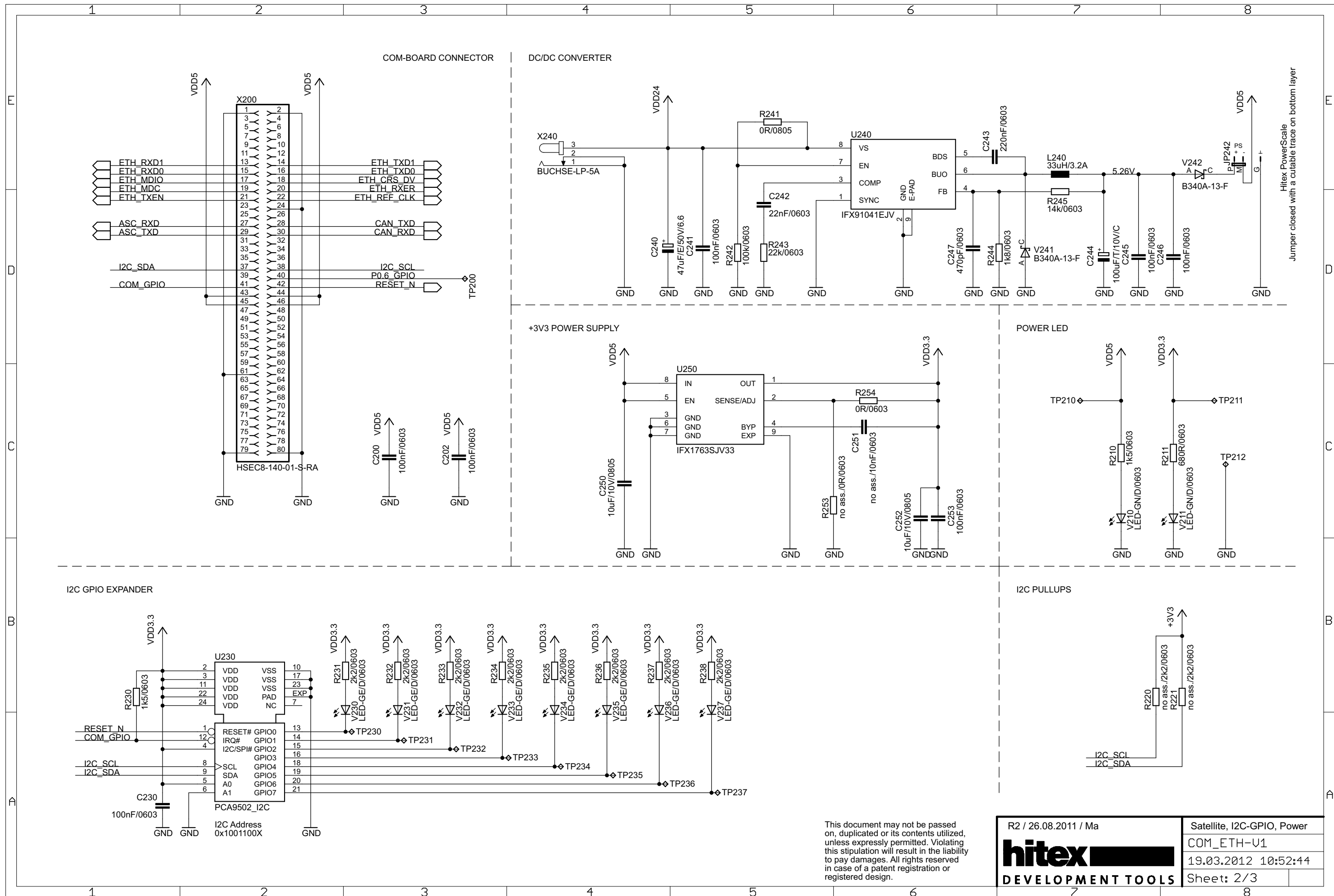
[1] Contents
[2] Satellite Connector, I2C-GPIO, Power
[3] Ethernet, CAN, RS485

Fiducials

ADJ_1   ADJ_2   ADJ_3

R2 / 26.08.2011 / Ma

hitex
DEVELOPMENT TOOLS

Contents

COM_ETH-V1

19.03.2012 10:52:44

Sheet: 1/3

COM-BOARD CONNECTOR

VDD5 VDD5

X200

1	2
3	4
5	6
7	8
9	10
11	12
13	14
15	16
17	18
19	20
21	22
23	24
25	26
27	28
29	30
31	32
33	34
35	36
37	38
39	40
41	42
43	44
45	46
47	48
49	50
51	52
53	54
55	56
57	58
59	60
61	62
63	64
65	66
67	68
69	70
71	72
73	74
75	76
77	78
79	80

ETH_RXD1 — 13 / 14 — ETH_TXD1
ETH_RXD0 — 15 / 16 — ETH_TXD0
ETH_MDIO — 17 / 18 — ETH_CRS_DV
ETH_MDC — 19 / 20 — ETH_RXER
ETH_TXEN — 21 / 22 — ETH_REF_CLK

ASC_RXD — 27 / 28 — CAN_TXD
ASC_TXD — 29 / 30 — CAN_RXD

I2C_SDA — 37 / 38 — I2C_SCL
— 39 / 40 — P0.6_GPIO
COM_GPIO — 41 / 42 — RESET_N TP200

HSEC8-140-01-S-RA

C200 VDD5 C202 VDD5
100nF/0603 100nF/0603

GND GND GND GND

DC/DC CONVERTER

VDD24

X240
3
2
1
BUCHSE-LP-5A

R241
0R/0805

U240
VS — 8
EN — 7
COMP — 3
SYNC — 1
BDS — 5
BUO — 6
FB — 4
GND E-PAD — 2 / 9
IFX91041EJV

C240
C241 47uF/E/50V/6.6
C242 22nF/0603
100nF/0603
R242 100k/0603
R243 22k/0603

C243 220nF/0603
L240 33uH/3.2A 5.26V
R245 14k/0603
C247 470pF/0603
R244 1k8/0603
V241 B340A-13-F
C244
C245 100uF/T/10V/C
C246 100nF/0603
100nF/0603

VDD5
V242 A C
B340A-13-F
P JP242 PS
M
G
Hitex PowerScale
Jumper closed with a cutable trace on bottom layer

GND GND GND GND GND GND GND GND GND GND GND GND

+3V3 POWER SUPPLY

VDD5 VDD3.3

U250
IN — 8
EN — 5
GND — 3
GND — 6
GND — 7
OUT — 1
SENSE/ADJ — 2
BYP — 4
EXP — 9
IFX1763SJV33

C250 10uF/10V/0805
R254 0R/0603
R253 no ass./0R/0603
C251 no ass./10nF/0603
C252 10uF/10V/0805
C253 100nF/0603

GND GND GND GND GND GND

POWER LED

VDD5 VDD3.3

TP210 TP211

R210 1k5/0603
R211 680R/0603
V210 LED-GN/D/0603
V211 LED-GN/D/0603
TP212

GND GND GND

I2C GPIO EXPANDER

VDD3.3

U230
VDD — 2
VDD — 3
VDD — 11
VDD — 22
VDD — 24
VSS — 10
VSS — 17
VSS — 23
PAD — EXP — 7
NC —

R230 1k5/0603

RESET_N — 1 RESET# GPIO0 — 13
COM_GPIO — 12 IRQ# GPIO1 — 14
4 I2C/SPI# GPIO2 — 15
GPIO3 — 16
I2C_SCL — 8 SCL GPIO4 — 18
I2C_SDA — 9 SDA GPIO5 — 19
5 A0 GPIO6 — 20
6 A1 GPIO7 — 21
PCA9502_I2C
I2C Address
0x1001100X

C230 100nF/0603

VDD3.3 (R231–R238) 2k2/0603
R231 R232 R233 R234 R235 R236 R237 R238
V230 V231 V232 V233 V234 V235 V236 V237
LED-GE/D/0603

TP230 TP231 TP232 TP233 TP234 TP235 TP236 TP237

GND GND GND

I2C PULLUPS

+3V3

R220 no ass./2k2/0603
R221 no ass./2k2/0603

I2C_SCL
I2C_SDA

R2 / 26.08.2011 / Ma

Satellite, I2C-GPIO, Power
COM_ETH-V1
19.03.2012 10:52:44
Sheet: 2/3

hitex
DEVELOPMENT TOOLS

ETHERNET

CAN INTERFACE

RS485 BSL, CAN BSL

VDD3.3
C300 100nF/0603
GND

Q300
VCC E/D
OUT
GND
50MHZ/VX3MH

R300 22R/0603
R317 22R/0603

RESET_N
ETH_REF_CLK

VDD3.3
U300P
32 IOVDD_1   IOGND_1 35
48 IOVDD_2   IOGND_2 47
        DGND 36
22 AVDD33_1 AGND_1 15
        AGND_2 19
DP83848CVV
C301 100nF/0603
GND   GND

R301 1k5/0603
R302 2k2/0603
R303 10k/0603

R304 4k87/0603

U300A
29 RESET_N
7 PWR_DOWN/INT
34 X1   25MHZ_OUT 25
33 X2
24 RBIAS   PFBOUT 23
             PFBIN1 18
             PFBIN2 37
1 TX_CLK   TD+ 17
2 TX_EN   TD- 16
3 TXD_0
4 TXD_1   RD+ 14
5 TXD_2   RD- 13
6 TXD_3
30 MDIO   LED_ACT 26
31 MDC   LED_SPEED 27
             LED_LINK 28
38 RX_CLK
39 RX_DV
40 CRS/CRS_DV NC1 8
41 RX_ER   NC2 9
42 COL   NC3 10
43 RXD_0   NC4 11
44 RXD_1   NC5 12
45 RXD_2   NC6 20
46 RXD_3   NC7 21
DP83848CVV

ETH_TXEN
ETH_TXD0
ETH_TXD1
ETH_MDIO
ETH_MDC
ETH_CRS_DV
ETH_RXER
ETH_RXD0
ETH_RXD1

R305 2k2/0603
R306 2k2/0603

C302 100nF/0603
C303 100nF/0603
C304 100nF/0603
C305 10uF/T/10V/A
GND GND GND GND

R307 49R9/0603
R308 49R9/0603
R309 49R9/0603
R310 49R9/0603

C306 100nF/0603
GND

R311 0R/0603
R312 0R/0603

C307 100nF/0603
C308 100nF/0603
C309 100nF/0603
GND GND GND

X300
8 RD-   LA 9
         LC 10
7 RD+
6 CTR   RA
         RC 11
2 TD-   CG1 5
1 TD+   CG2 4
3 CTT   S1
RJ45   S2
RJ45/J0026

R313 120R/0603
R314 2k2/0603
R315 120R/0603
R316 2k2/0603

GND

VDD3.3
VDD5
U320
3 VCC V33V GND 2
5
8 INH
GND
1 TXD CANH 7
4 RXD CANL 6
TLE6250GV33

CAN_TXD
CAN_RXD

C320 100nF/0603
C321 100nF/0603
GND GND

R320 120R/0805

VDD5
R321 no ass./0R/0805

X320
S1 7
   6
   8
   9
S2
   1
   2
   3
   4
   5
M09-SLIM

GND GND GND

VDD5
X330
1
2
3
4
W1*4
SMD when possible

R330 120R/0805

U330
2 GND   VCC V33V 5
        INH
6 CANH TXD 1
7 CANL RXD 4
TLE6250GV33

VDD5 VDD3.3

C330 100nF/0603
C331 100nF/0603
GND GND GND

Jumpers to select
SJ1   SJ2
1 2 1 2
CAN   RS485 (default)

VDD3.3
R331 10k/0603

U331
3 DI
        VCC
        Y 5
        Z 6
2 RO   A 8
        B 7
        GND 4
ADM3074E

VDD3.3
C332 100nF/0603
GND

X331
5
4
3
2
1
9
8
7
6
M09-SLIM

R332 120R/0805

GND GND GNDGND

ASC_RXD
ASC_TXD

R2 / 26.08.2011 / Ma

This document may not be passed on, duplicated or its contents utilized, unless expressly permitted. Violating this stipulation will result in the liability to pay damages. All rights reserved in case of a patent registration or registered design.

hitex
DEVELOPMENT TOOLS

Ethernet, CAN, RS485
COM_ETH-V1
19.03.2012 10:52:44
Sheet: 3/3