SD_CARD

2V8_SD
VDD_EXT
R1
SD_DET>
SD_CMD
SD_CLK
SD_DAT
GND

CN3 SD_CARD
DAT2, CS/DAT3, DI/CMD, VCC, CLK, GND, DO/DAT0, DAT1
CD1
D1 RClamp0854P.TCT

ANTENNAE

CN1 Conn_GPS
ANT_GPS R2 OE
C2 10pf_DNP C3 10pf_DNP
GND

CN2 Conn_GNSS
ANT_GNSS R3 OE
C4 10pf_DNP C5 10pf_DNP
GND

AE1 ANT_BT
ANT_BT R4 OE
C6 10pf_DNP C7 10pf_DNP
GND

SIM_CARD

SIM1_VDD
R5 100k
SIM_RST R7 22E
SIM_CLK R6 22E
SIM_DAT R10 22E
C8 33pF C9 33pF C10 33pF C11 33pF
CN4 SIM_Card
VCC, RST, CLK, GND, VCC, VPP, I/O
P1 P2 P3 P4 P5 P6 P7
D4 RClamp0854P.TCT
SIM_GND
GNDD
Route to MC60 SIM_GND seperately

INDICATORS - CONTROLS

LED flashes indicate Network status
VBAT
D2 LED_NET
R8 590E
Q1 DTC114E
NETLIGHT
GND

LED flashes at 1pps after GPS fix
GNSSVCC
D3 LED_FIX
R9 270E
Q2 DTC114E
1PPS
GND

Power control
Push S1 for ON, Push S1 for OFF OR via external "RST" signal
PWRKEY
5V
S1 SW-ON
RST
Q3 DTC114E
GND

AUDIO - EXT. EARPHONE/MIC

LOUD_SPKP
C13 33pF C14 10pF D5 ESD9B5.0ST5G
C12 10uF RIGHT
C15 10uF LEFT
GND
GNDREF
GND_REF_2
CN5 Audio-Jack-4

CITA STYLE TRRS CONNECTION
Left, Right, Ground, Mic or ...

MIC+
C18 33pF C19 10pF
C20 33pF C21 10pF
C24 33pF C25 10pF
MIC-
C26 10uF
PLACE NEAR MC60 PINS.
GND
C22 33pF C23 10pF D6 ESD9B5.0ST5G
GND R15 OE GND_REF
GND_REF
GNDREF
PWR_FLAG GNDREF

UART LEVEL TRANSLATION

JP1 3V3_EXT<>5V
3V3_EXT 5V
VDD_EXT
C16
VCCA VCCB
C17
PWR_FLAG
RTS> OE RTS
CTS> A1 B1 CTS
DTR> A2 B2 DTR
DCD> A3 B3 DCD
RING> A4 B4 RING
RXD> A5 B5 RXD
TXD> A6 B6 TXD
SD_DET> A7 B7 SD_DET
  A8 B8
R14 10k
GND
U2 TXB0108PWR

UART output voltage can be either 5V (derived from main input) or 3V3 (derived from external input)

HEADERS

GND
DBG_TXD
DBG_RXD
H1 UART_DBG

3V3_EXT
GND
5V
RST
GND
GND
GSM_PWR_EN
5V
H3 CONTROL

U1 MC60_0

Pins left side:
MIC+ 1 MiCP
MIC- 2 MICN
SPKP 3 SPKP
SPKN 4 SPKN
PWRKEY 5 PWRKEY
ADC 6 ADC
SD_CMD 7 SD_CMD
SD_CLK 8 SD_CLK
SD_DAT 9 SD_DATA
10 SIM2_CLK
11 SIM2_DATA
12 SIM2_RST
13 SIM2_VDD
GND 14 SIM_GND
ANT_GNSS 15 GNSS_ANT

J3 B_SPKP, J4 B_SPKN, J5 B_ADC

Top pins: LOUD_SPKP 54, LOUD_SPKN 53, VRTC 52, VBAT 51, GND 50, NETLIGHT 49, Reserved 48, GND 47, GND 46, GND 45, GND 44, VDD_EXT 43
B_IS_N J1, B_VRTC J2
PWR_FLAG
C1 4u7 2V8,20mA max.
GND PWR_FLAG

Reserved 66, 67, 68, 63, 64, 65

Right side:
GND 42 ANT_GPS
RF_ANT 41
GND 40
RI 39 RTS>
CTS 38 CTS>
DTR/SIM1_PRESENCE 37 DTR>
DCD 36 DCD>
RI 35 RING>
RXD 34 RXD>
TXD 33 TXD>
BT_ANT 32 ANT_BT
GND 31
DBG_RXD 30 DBG_RXD
DBG_TXD 29 DBG_TXD
GNSS_VCC_EN 28 GNSS_VCC_EN

PCM_IN 62
PCM_SYNC 61
PCM_OUT 60
PCM_CLK 59

Reserved 55, 56, 57, 58

Bottom pins: SIM_GND 16, 1PPS 17, SIM1_VDD 18, SIM1_CLK 19, SIM1_RST 20, SIM1_DAT 21, GNSS_TXD 22, GNSS_RXD 23, RXD_AUX 24, TXD_AUX 25, GNSS_VCC 26, GND 27
R11 OE, R12 OE, R13 OE
GND 1PPS GNDD PWR_FLAG

POWER SUPPLY

VDD 5V/3A (2A min)
PWR_FLAG
5V
C27 470uF C28 100nF
Q4 DTC143ZUA
JP2 GSM_PWR_EN
GSM_PWR_EN
GND
R16 51k
U3 MIC29302
VIN VOUT
EN GND ADJ
R17 12k4 R18 590E
C29 470uF
R19 56k D8 LED_PWR

VBAT 4V for GPS DOMAIN
C30 470uF C31 1uF C32 100nF C33 33pF C34 10pF D7 PD2VTR.13
NEAR VBAT PINS.
VBAT
C35 100nF C36 100nF
U4 LP5907-3V3
VIN VOUT
EN NC GND
3V3 for GNSS DOMAIN
GNSSVCC
C37 4u7 C38 10uF C39 100nF
NEAR GNSSVCC PIN
GNSS_VCC_EN
R20 47k

U5 LP5907-2V8
5V
C40 100uF C41 100nF
VIN VOUT
EN NC GND
2V8 for SD-CARD
2V8_SD
C42 4u7 C43 10uF C44 100nF
NEAR SD-CARD.
GND

JP2 > 5V = OFF (VReg U3 is disabled).
JP2 > GND = ON (VReg U3 is enabled).

Reference design does not have SD-Card
mikroe.de "click" uses VDD_EXT which is limited to 20mA max
Some SD-Cards require up to 100mA during Write cycles