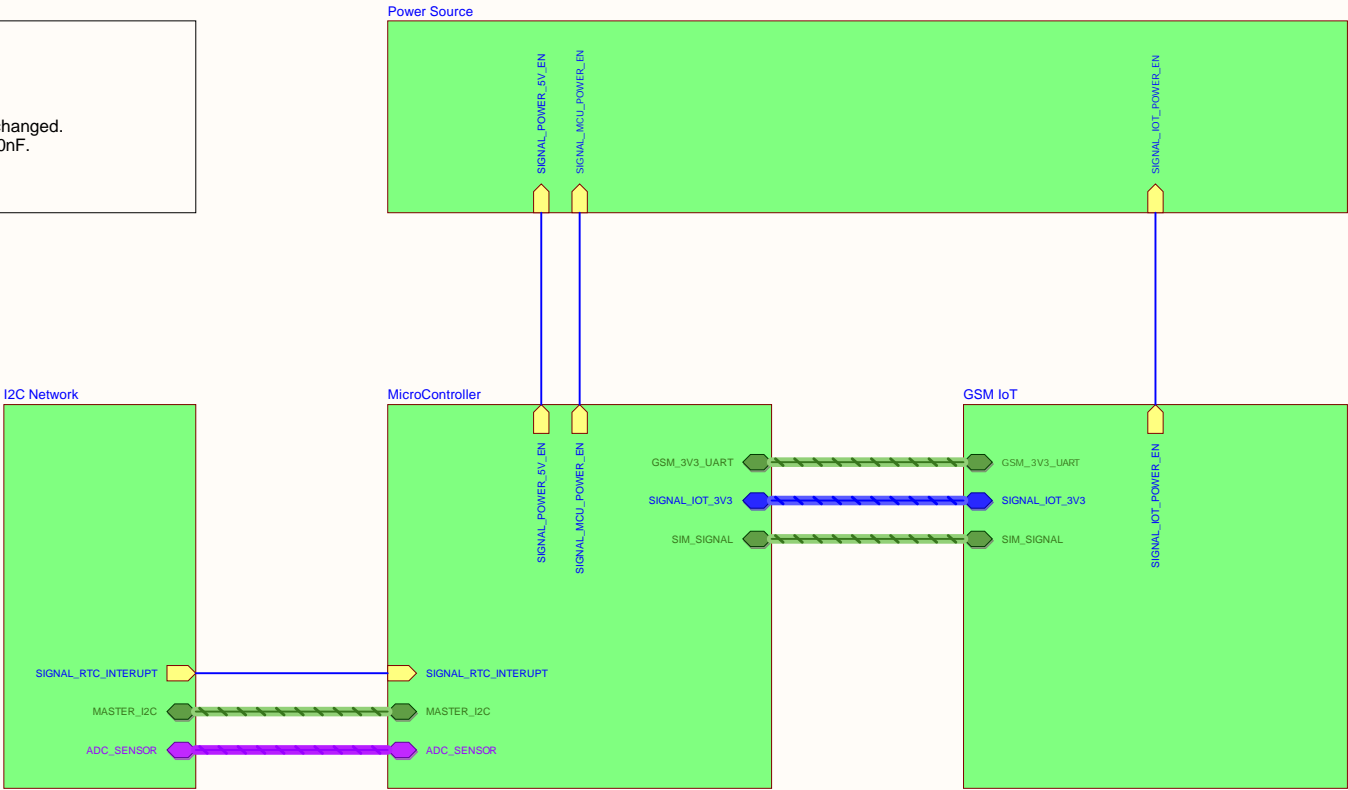



# B100 - Master IoT MicroController

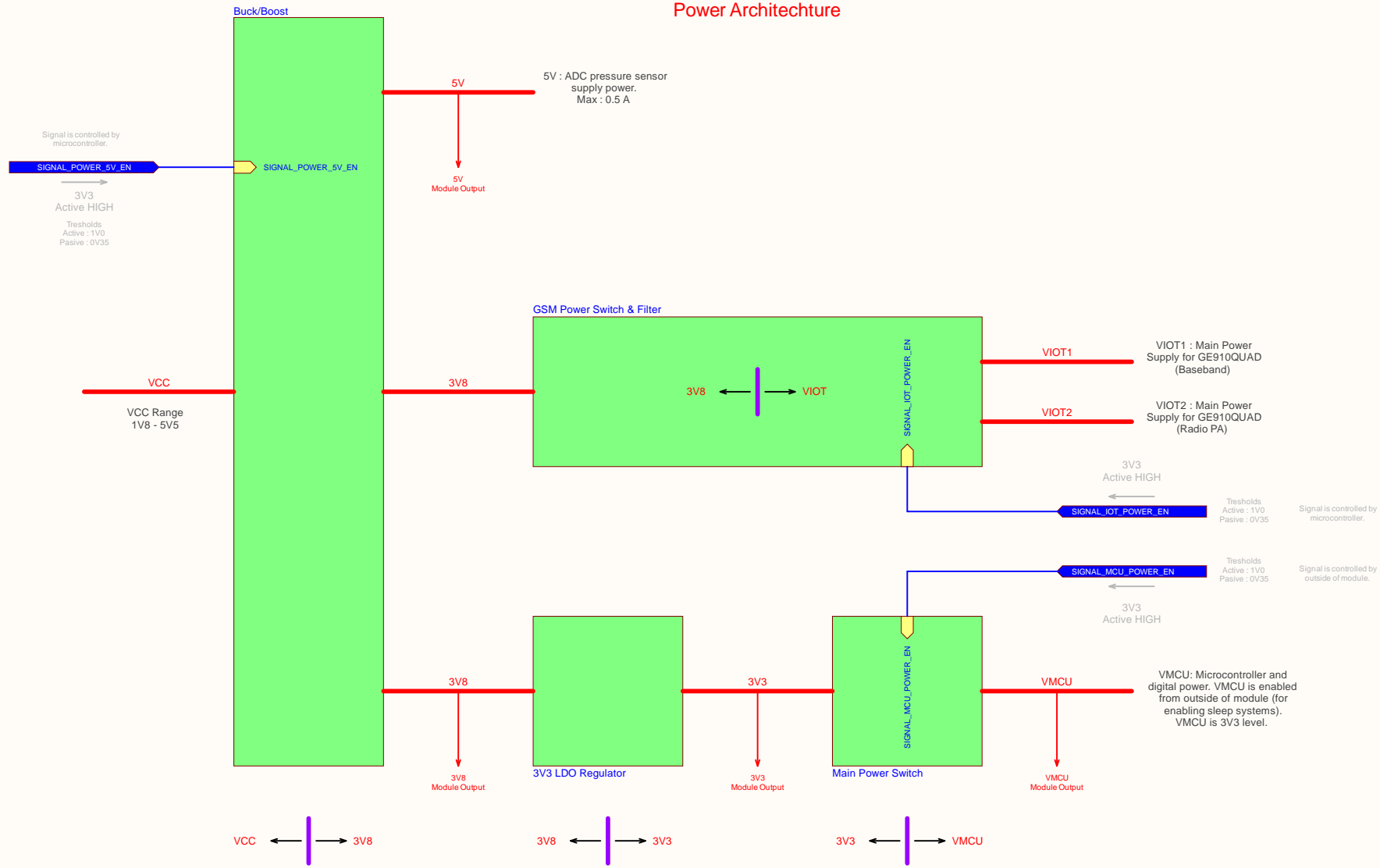
## Revision History

- AA001 (05.01.2021)  
\* Schematic creation.
- AA002 (11.01.2021)  
\* Bidirectional signal translator IC changed.  
\* SIM Vcc capacitor changed to 100nF.

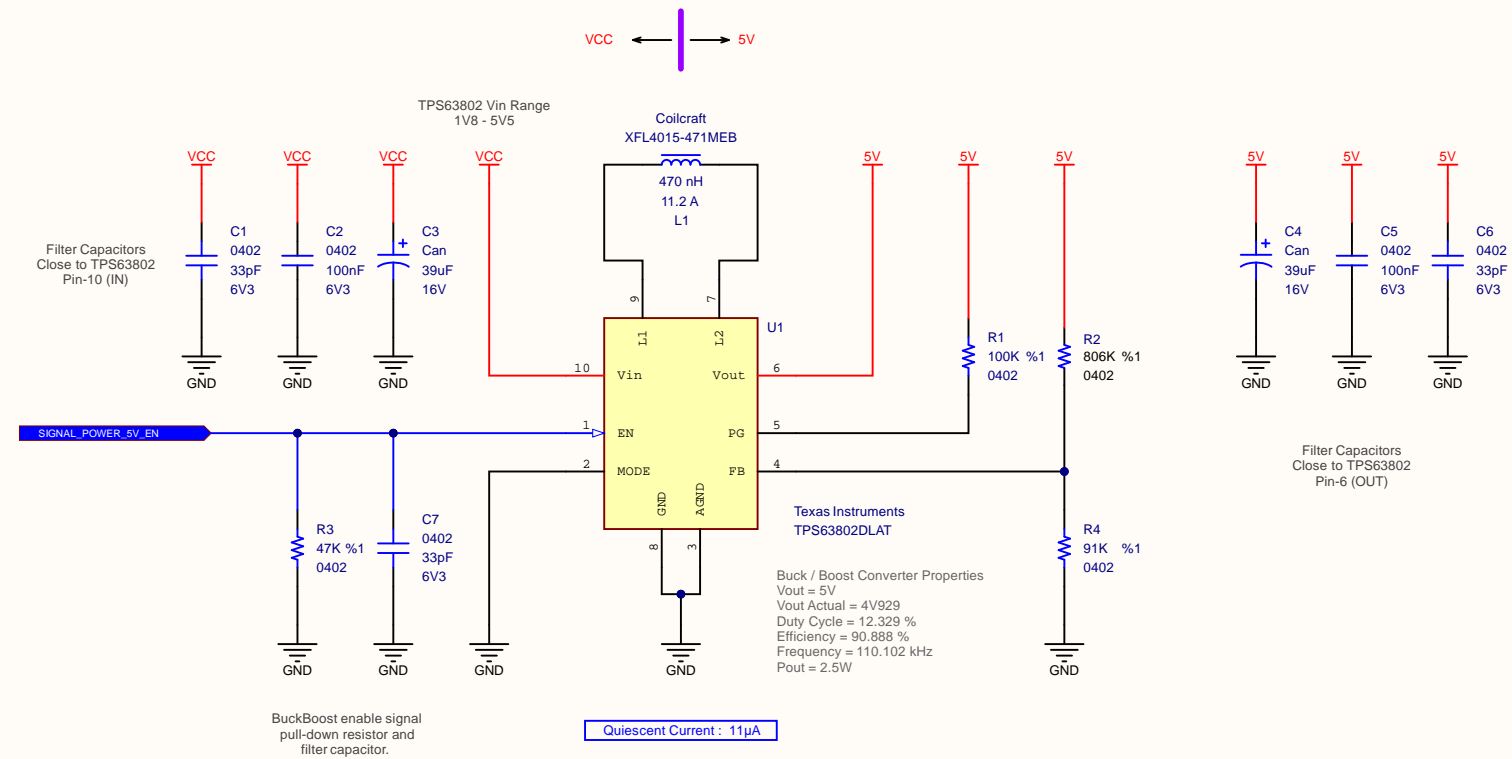


Title <b>B100 Block Diagram</b>			<b>Ovoo Electronics</b>  Necip Fazıl Mah. Ortarmak Sok. Bırgölü Apt. No: 19/6 Meram / Konya Türkiye	
Size: <b>A4</b>	Number:	Revision: <b>B100AA</b>		
Date: <b>11.01.2021</b>	Time: <b>17:23:44</b>	Sheet <b>1</b> of <b>39</b>		
File: <b>C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\B100 Block Diagram.SchDoc</b>				

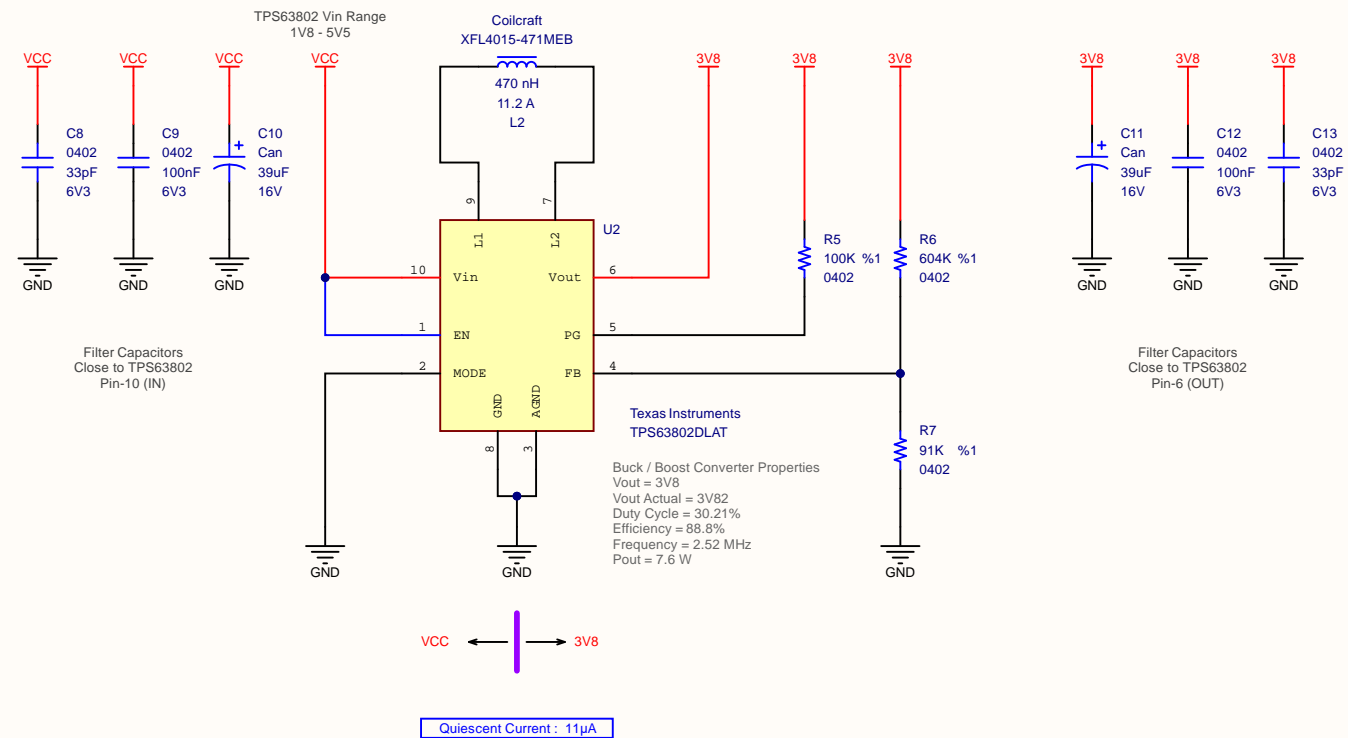
Power Architechture




## 5V Buck Boost Converter



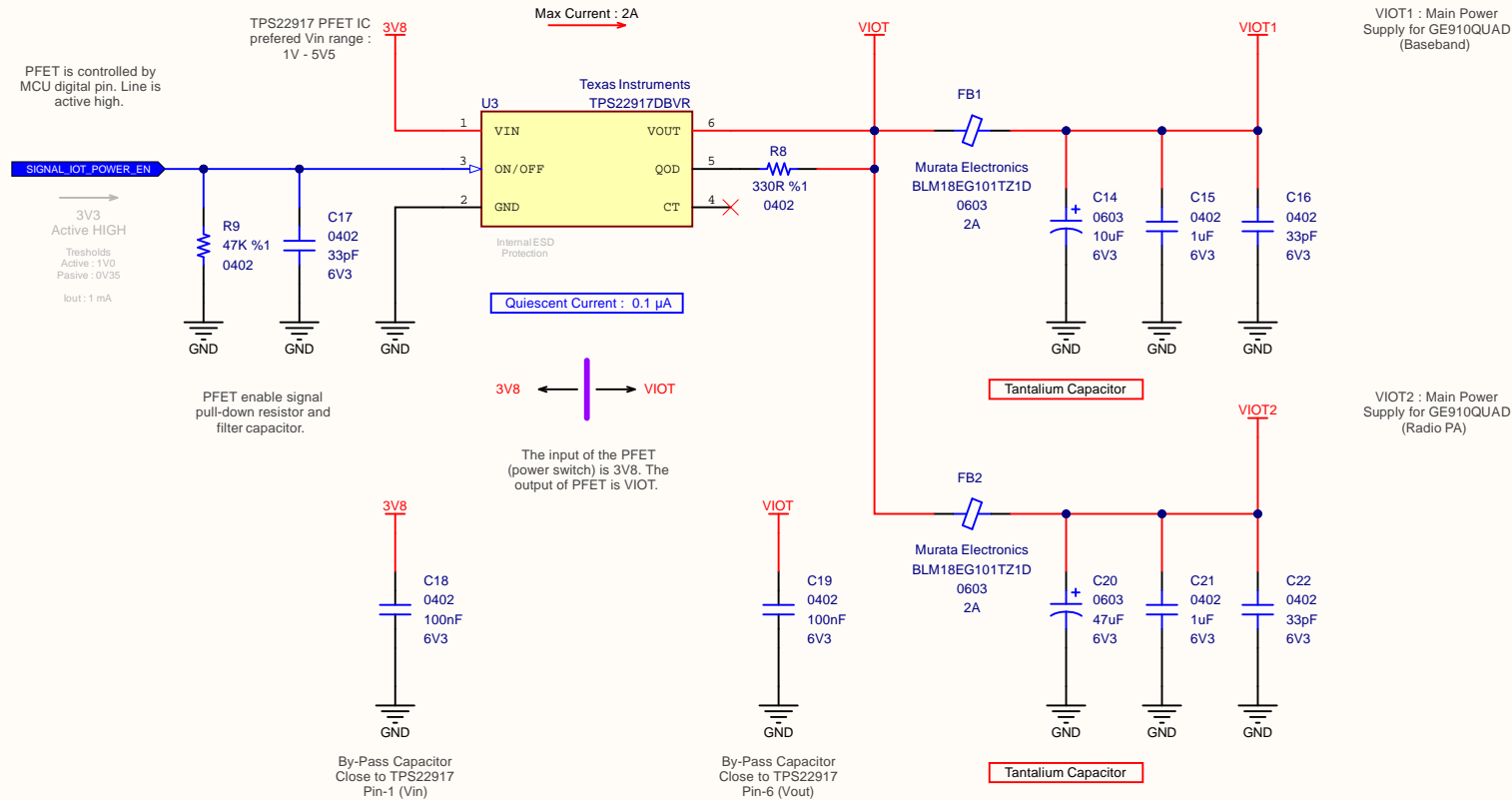
### 3V8 Buck Boost Converter



<b>Title</b> <b>Buck Boost Converter</b>				<b>Ovoo Electronics</b> Necip Fazil Mah. Otaurmak Sok. Bırgöl Apt. No: 19/6 Meram / Konya Türkiye		
<b>Size:</b> <b>A3</b>		<b>Number:</b>		<b>Revision:</b> <b>B100AA</b>		
<b>Date:</b> <b>11.01.2021</b>		<b>Time:</b> <b>17:23:44</b>		<b>Sheet</b> <b>3</b> <b>of</b> <b>39</b>		
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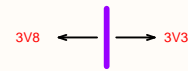
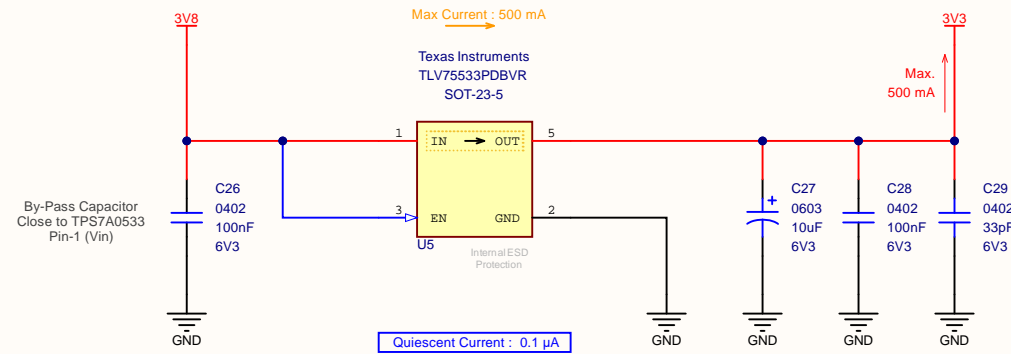
## GSM Modem Power Switch

## GSM Module Power Filter




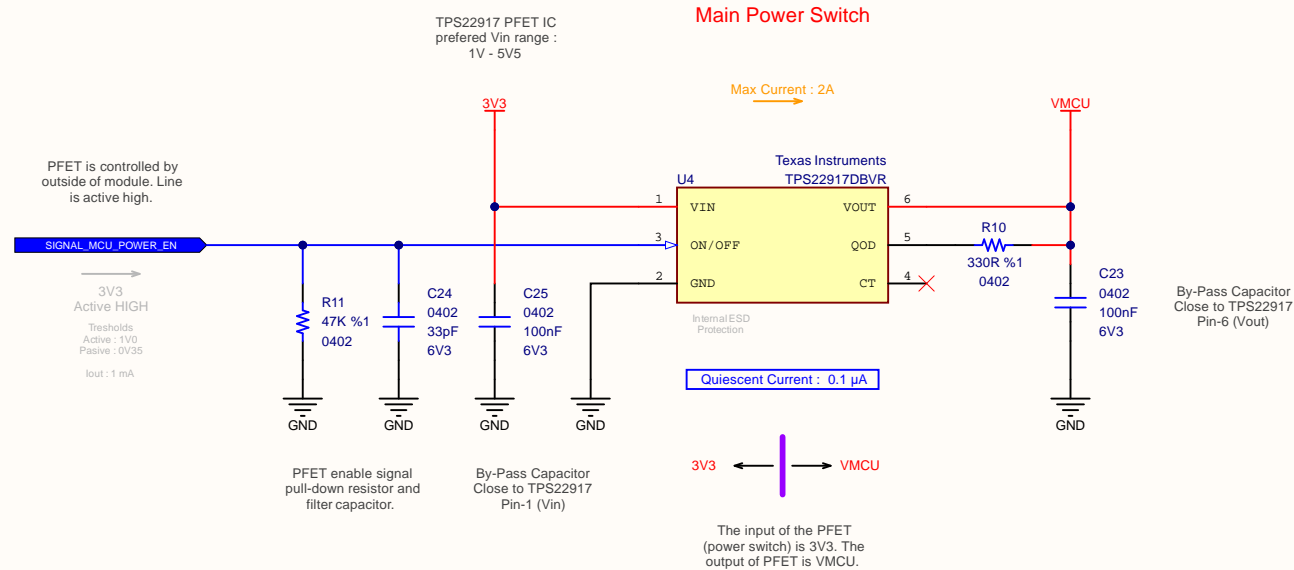
Title GSM Power Switch and Filter			Ovoo Electronics Necip Fazıl Mah. Bırgölü Apt. No: 19 Meram / Konya Türkiye
Size: A4	Number:	Revision: B100AA	
Date: 11.01.2021	Time: 17:23:44	Sheet 4 of 39	
File: C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\GSM Power.SchDoc			


### 3V3 LDO Regulator



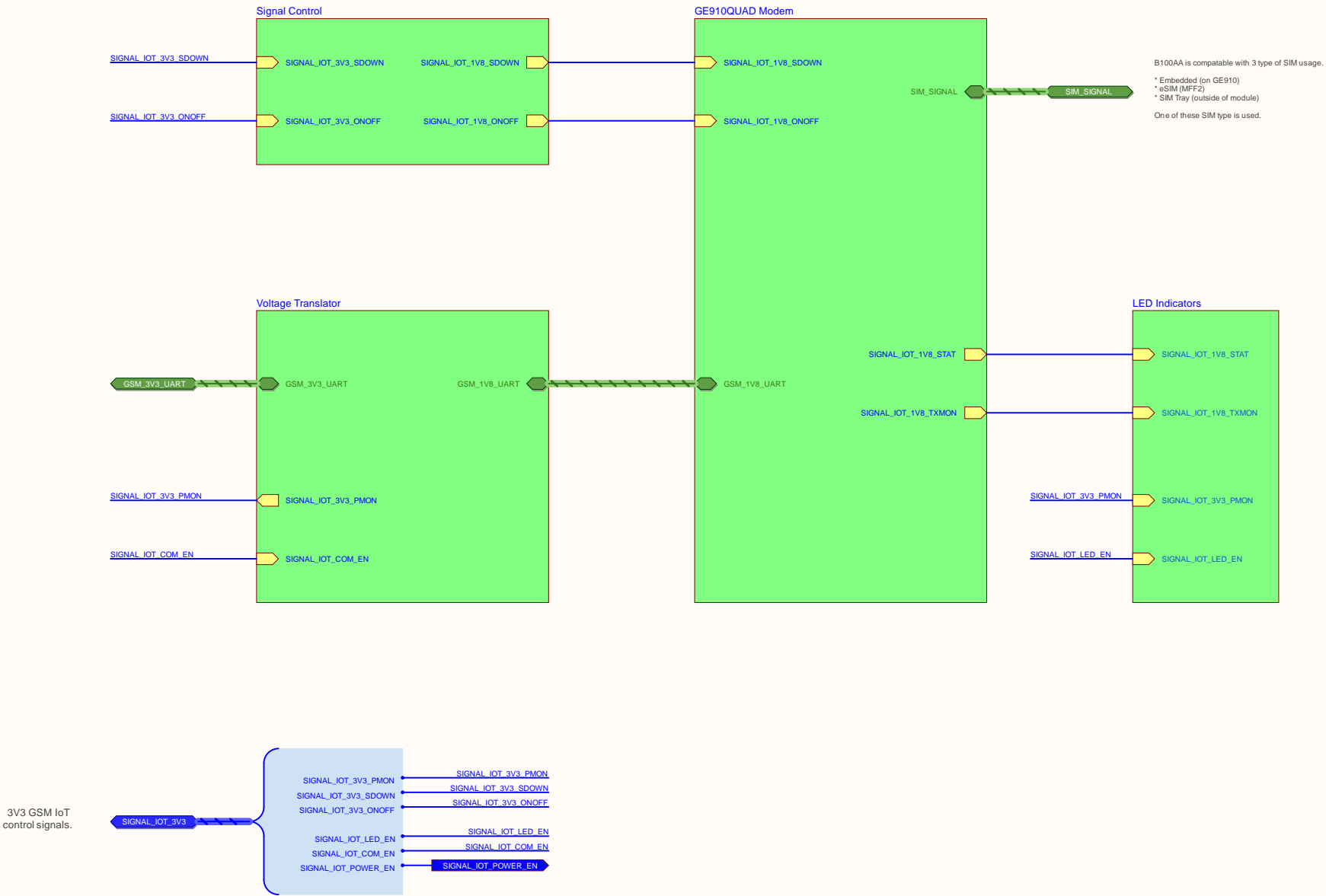
TLV75533 LDO is a 3V3 regulator. LDO is always enable.

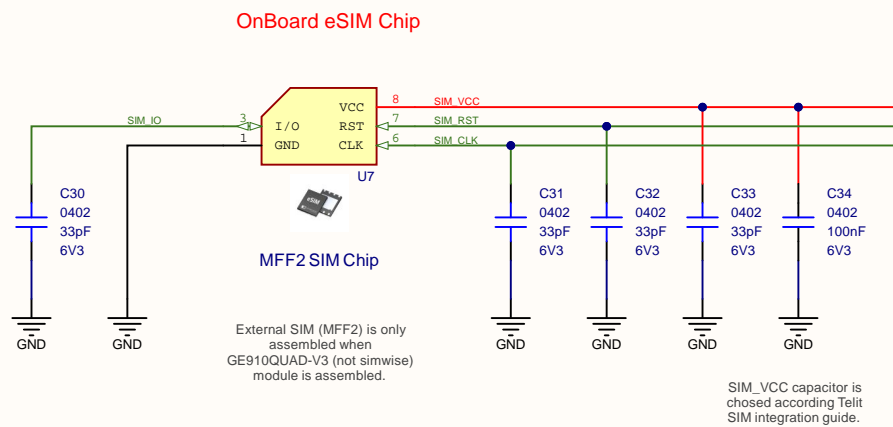
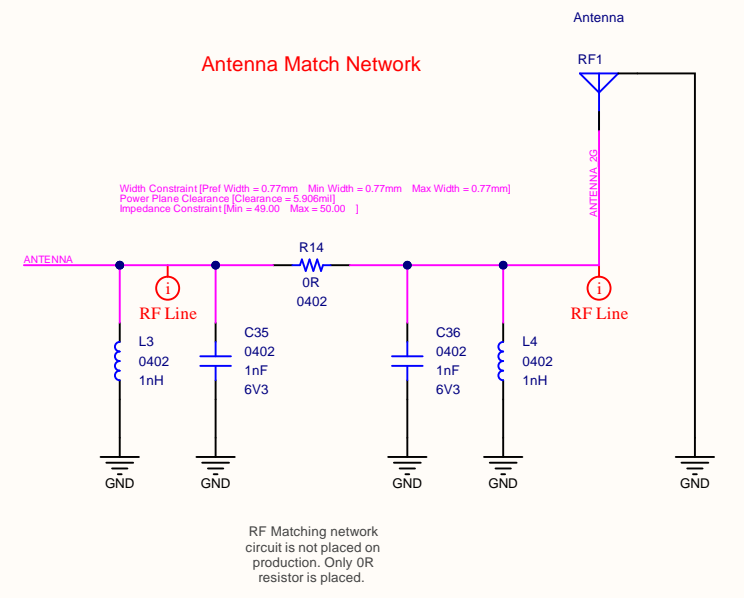
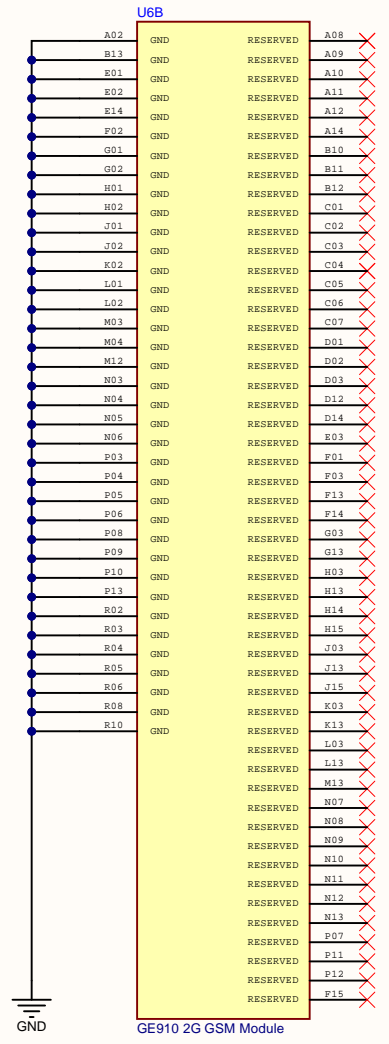
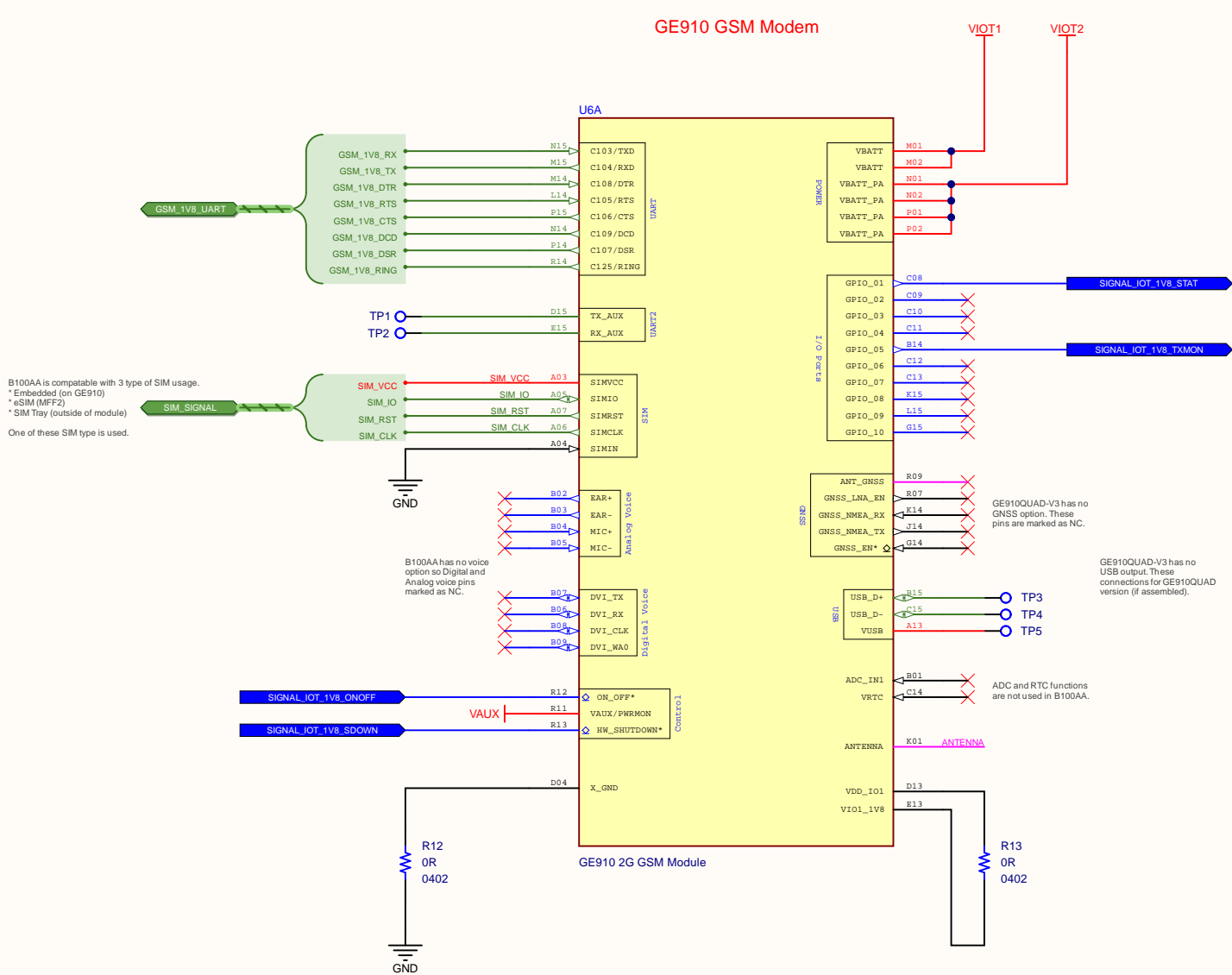
Title 3V3 LDO Regulator			Ovoo Electronics Necip Fazıl Mah. Ortarmak Sok. Bırgölü Apt. No: 19/6 Meram / Konya Türkiye	
Size: A4	Number:	Revision: B100AA		
Date: 11.01.2021	Time: 17:23:44	Sheet 5 of 39		
File: C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\3V3 LDO Regulator.SchDoc				



Title <b>Main Power Switch</b>			Ovoo Electronics  Necip Fazıl Mah. Ortarmak Sok. Bırgölü Apt. No: 19/6 Meram / Konya Türkiye	
Size: <b>A4</b>	Number:	Revision: <b>B100AA</b>		
Date: <b>11.01.2021</b>	Time: <b>17:23:44</b>	Sheet <b>6</b> of <b>39</b>		
File: <b>C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\Main Power Switch.SchDoc</b>				

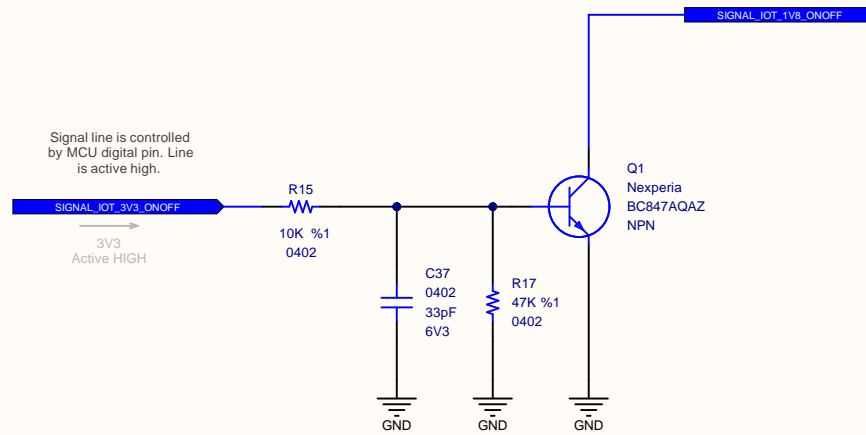
GSM IoT Communication Layer



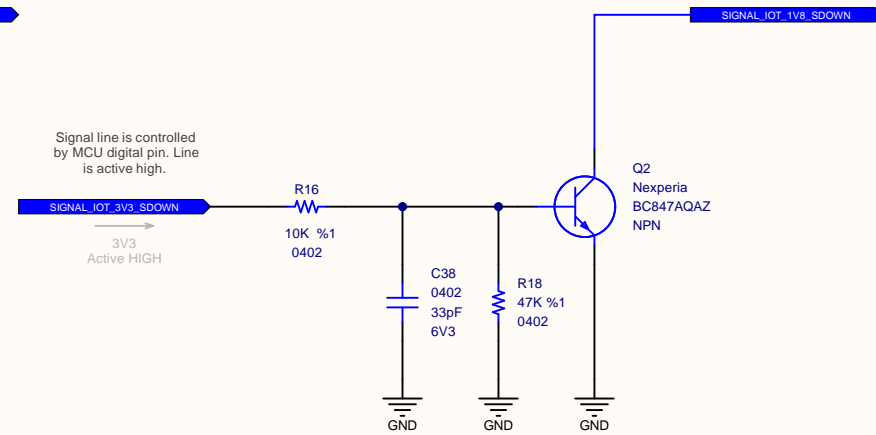




## GSM Module On/Off Signal



## GSM Module Shut Down Signal



Title GSM Control Signal Management

Size: A4

Number:

Revision: B100AA

Date: 11.01.2021

Time: 17:23:45

Sheet 9 of 39

File: C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\GSM Signal Control.SchDoc

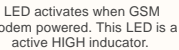
Ovoo Electronics

Necip Fazıl Mah. Ortarmak Sok.  
Bırgölü Apt. No: 19/6  
Meram / Konya  
Türkiye

OVOO



VMCU

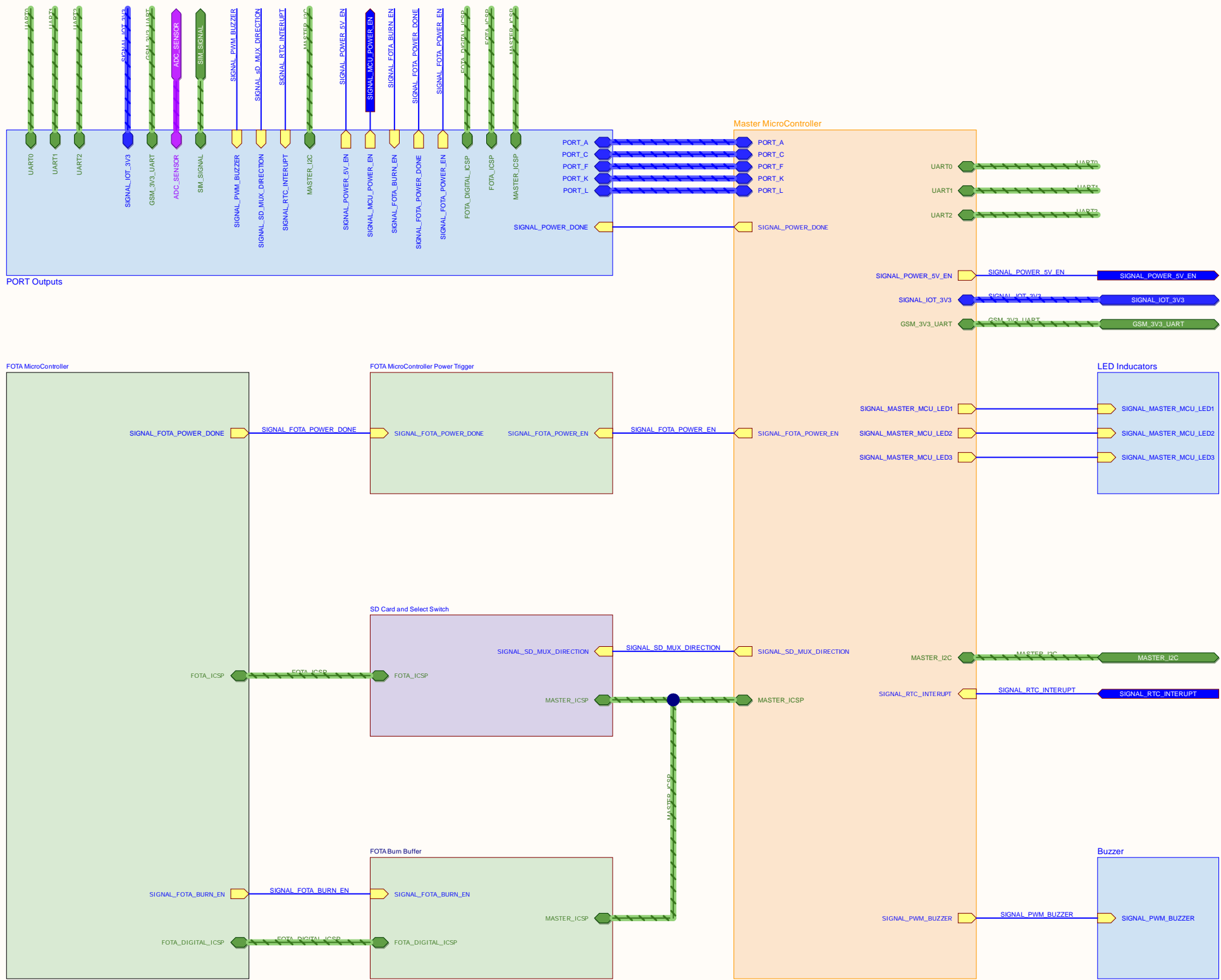


LED activates according to connection. Fast blinking LED is indicates searching GSM connection. Slow blinking LED is indicates GSM connection established.

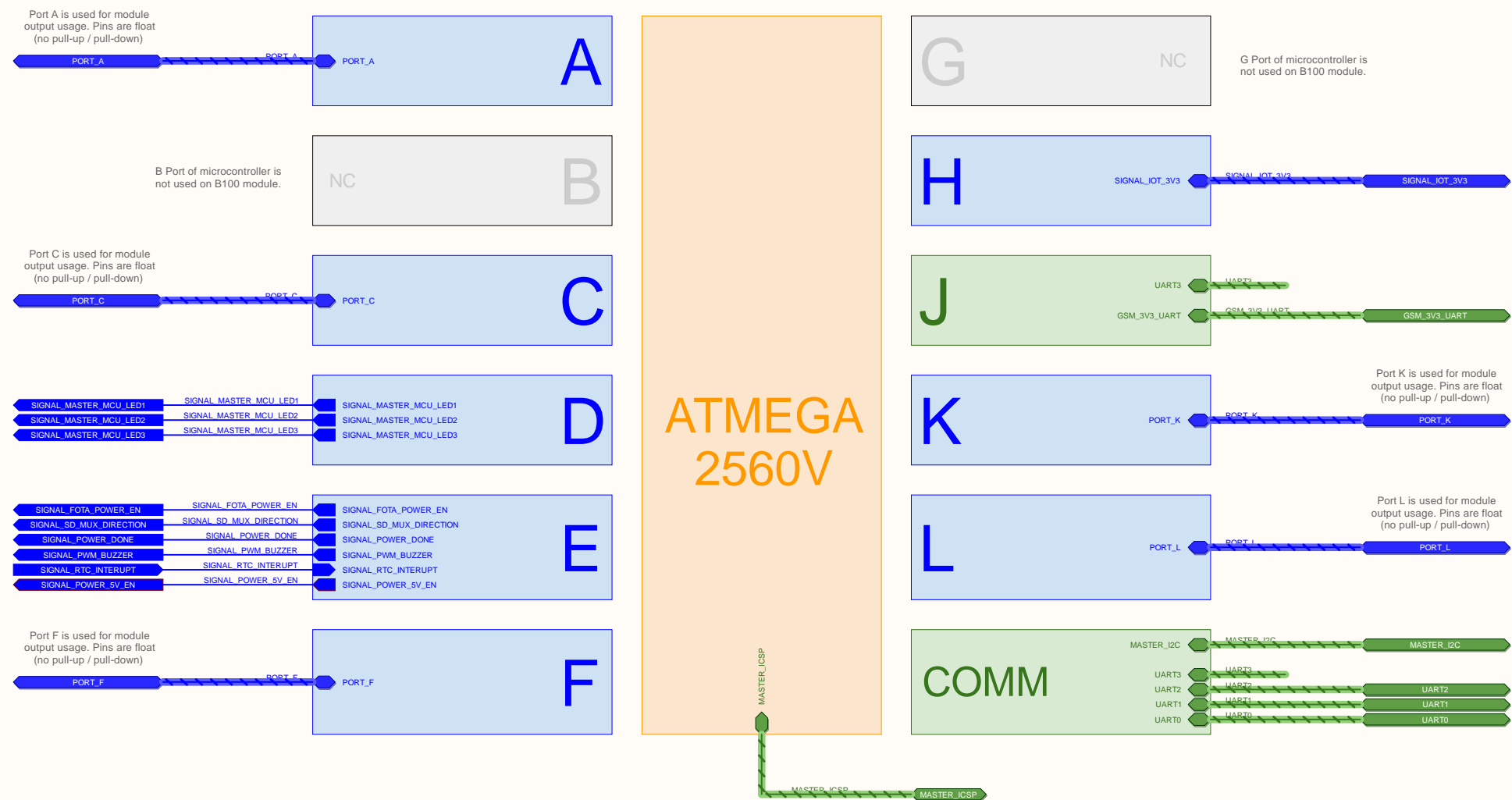
ED activates when GSM modem sending data to internet.

ÓVOC

# B100 MicroController

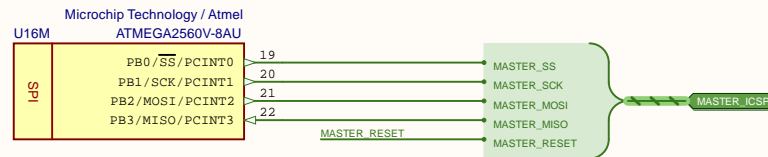
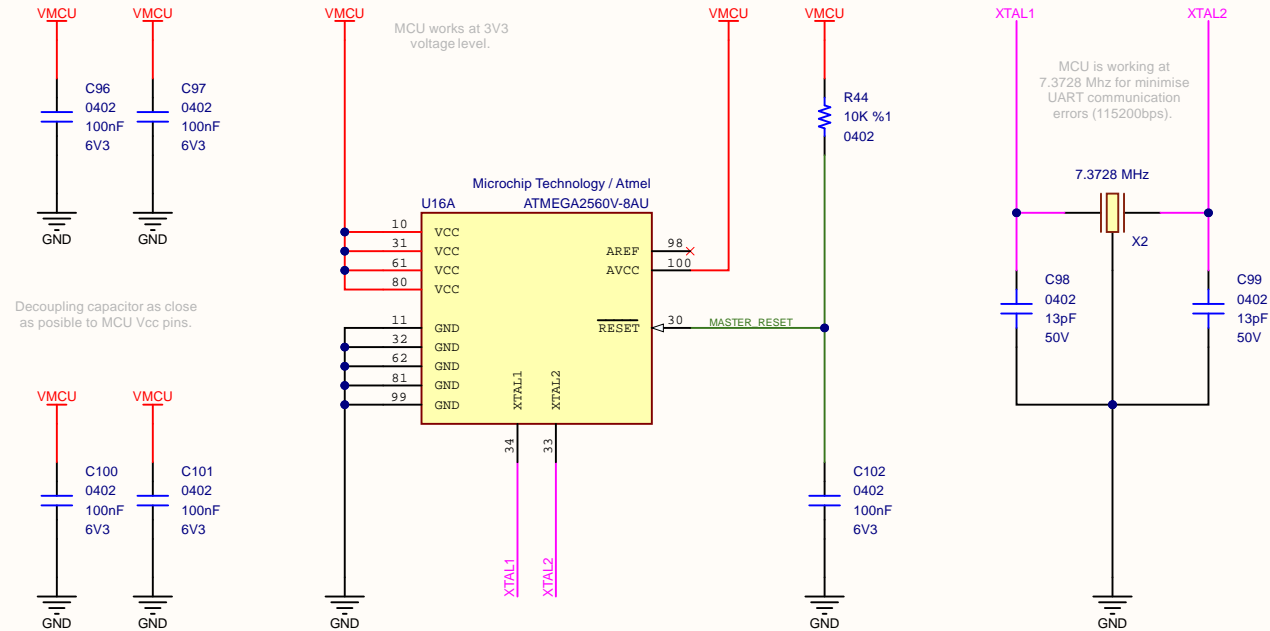


# Master MicroController




## MicroController

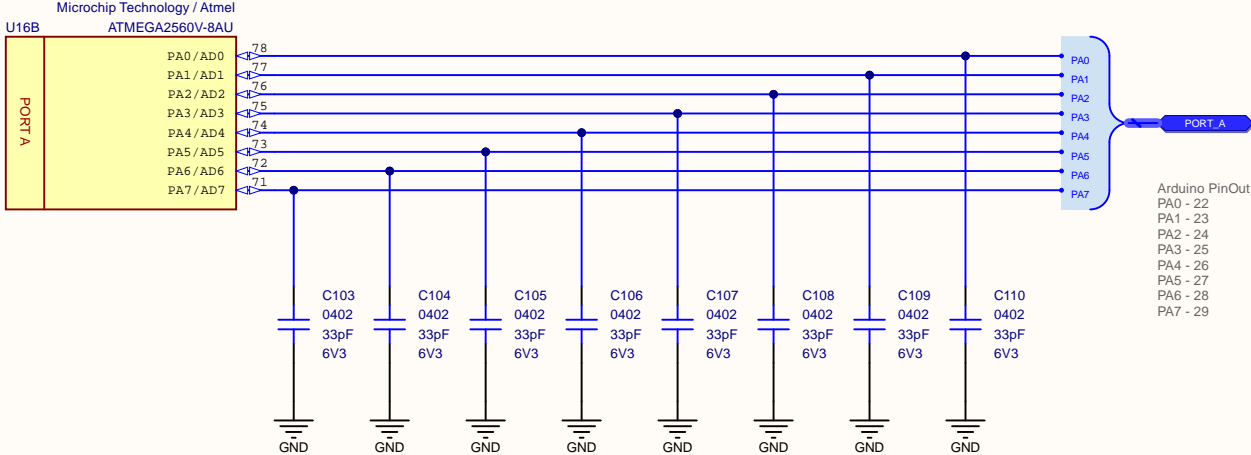
## Crystal Oscillator



## Master MicroController ICSP

Title <b>Master MicroController Core</b>			<b>Ovoo Electronics</b> Necip Fazıl Mah. Ortarmak Sok. Bırgölü Apt. No: 19/6 Meram / Konya Türkiye		
Size: <b>A4</b>	Number:	Revision: <b>B100AA</b>			
Date: <b>11.01.2021</b>	Time: <b>17:23:45</b>	Sheet <b>14</b> of <b>39</b>			
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Master MicroController A Port



A

B

C

D

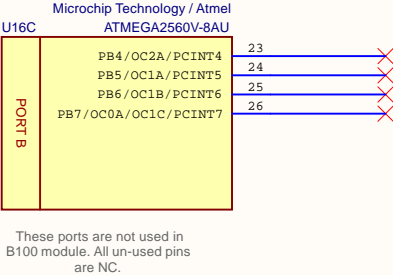
A


B

C

D

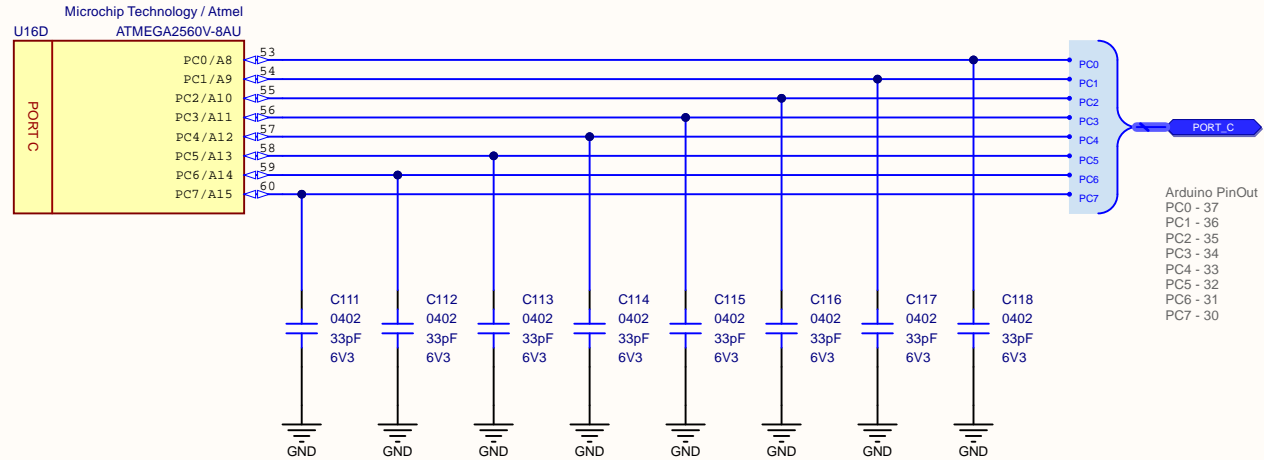
Master MicroController B Port




Title Master Micro Controller Port B Pin Out			Ovoo Electronics  Necip Fazıl Mah. Ortarmak Sok. Bırgölü Apt. No: 19/6 Meram / Konya Türkiye	
Size: A4	Number:	Revision: B100AA		
Date: 11.01.2021	Time: 17:23:46	Sheet 16 of 39		
File: C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\Master MicroController Port B.SchDoc				

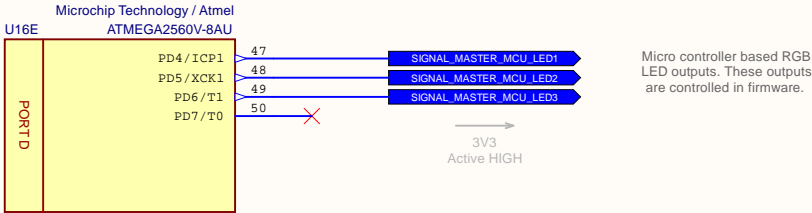



## Master MicroController C Port



Title <b>Master Micro Controller Port C Pin Out</b>			<b>Ovoo Electronics</b>  Necip Fazıl Mah. Ortarmak Sok. Bırgölü Apt. No: 19/6 Meram / Konya Türkiye	
Size: <b>A4</b>	Number:	Revision: <b>B100AA</b>		
Date: <b>11.01.2021</b>	Time: <b>17:23:46</b>	Sheet <b>17</b> of <b>39</b>		
File: <b>C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\Master MicroController Port C.SchDoc</b>				

Master MicroController D Port



Title Master Micro Controller Port D Pin Out			Ovoo Electronics  Necip Fazıl Mah. Ortarmak Sok. Bırgölü Apt. No: 19/6 Meram / Konya Türkiye	
Size: A4	Number:	Revision: B100AA		
Date: 11.01.2021	Time: 17:23:46	Sheet 18 of 39		
File: C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\Master MicroController Port D.SchDoc				

A

B

C

D

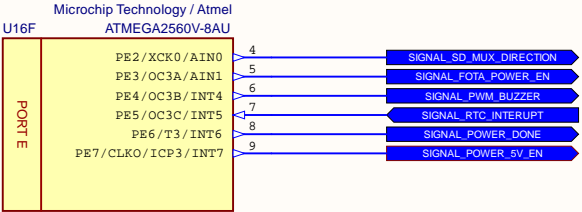
A


B

C

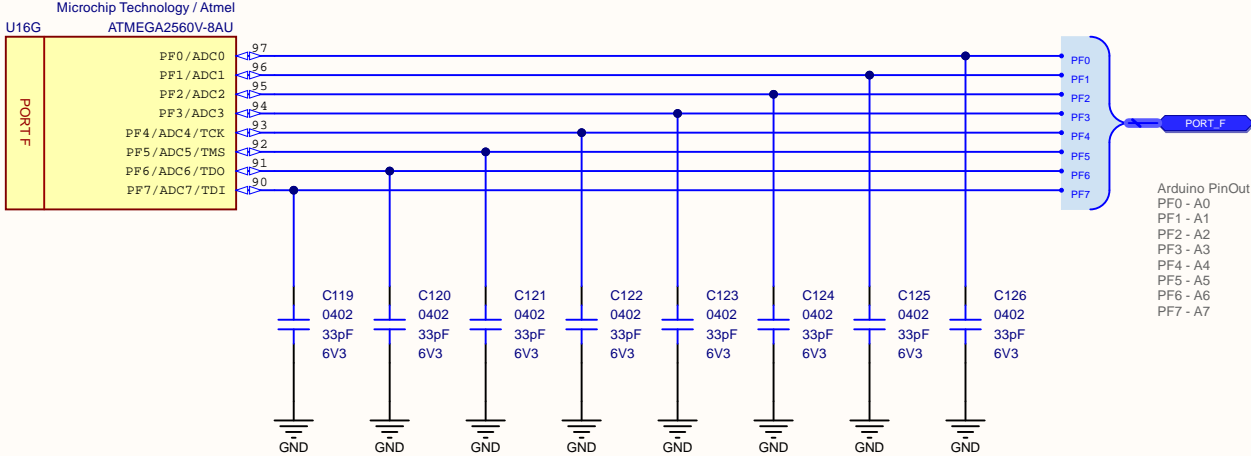
D


Master MicroController E Port



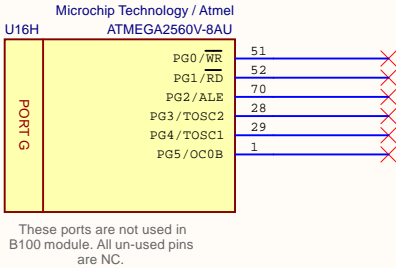
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Size: A4	Number:	Revision: B100AA		
Date: 11.01.2021	Time: 17:23:46	Sheet 19 of 39		
File: C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\Master MicroController Port E.SchDoc				


Master MicroController F Port



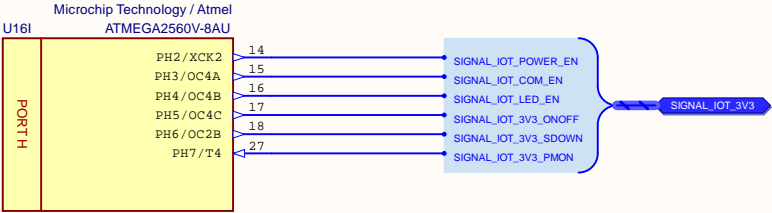
Title Master Micro Controller Port F Pin Out			Ovoo Electronics  Necip Fazıl Mah. Ortairmak Sok. Bırgöl Apt. No: 19/6 Meram / Konya Türkiye	
Size: A4	Number:	Revision: B100AA		
Date: 11.01.2021	Time: 17:23:46	Sheet 20 of 39		
File: C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\Master MicroController Port F.SchDoc				


Master MicroController G Port



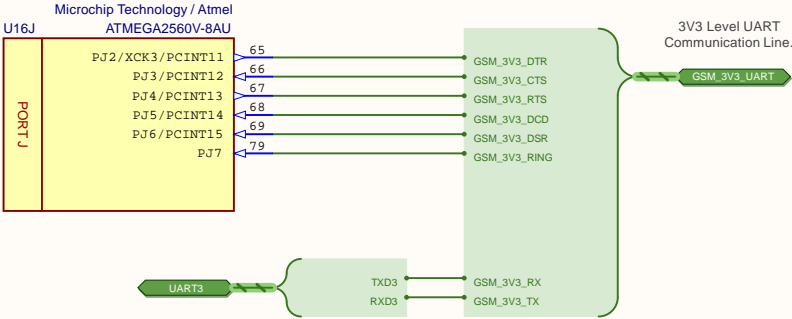
Title <b>Master Micro Controller Port G Pin Out</b>			<b>Ovoo Electronics</b>  Necip Fazıl Mah. Ortarmak Sok. Bırgölü Apt. No: 19/6 Meram / Konya Türkiye	
Size: <b>A4</b>	Number:	Revision: <b>B100AA</b>		
Date: <b>11.01.2021</b>	Time: <b>17:23:46</b>	Sheet <b>21</b> of <b>39</b>		
File: <b>C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\Master MicroController Port G.SchDoc</b>				


Master MicroController H Port



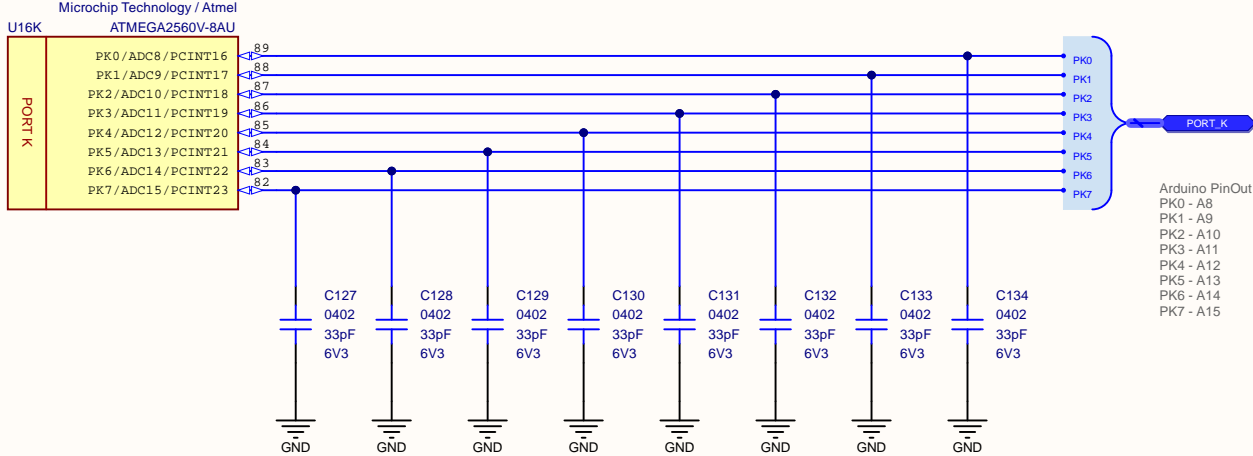
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Size: A4	Number:	Revision: B100AA		
Date: 11.01.2021	Time: 17:23:46	Sheet 22 of 39		
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GSM IoT Communication Pins



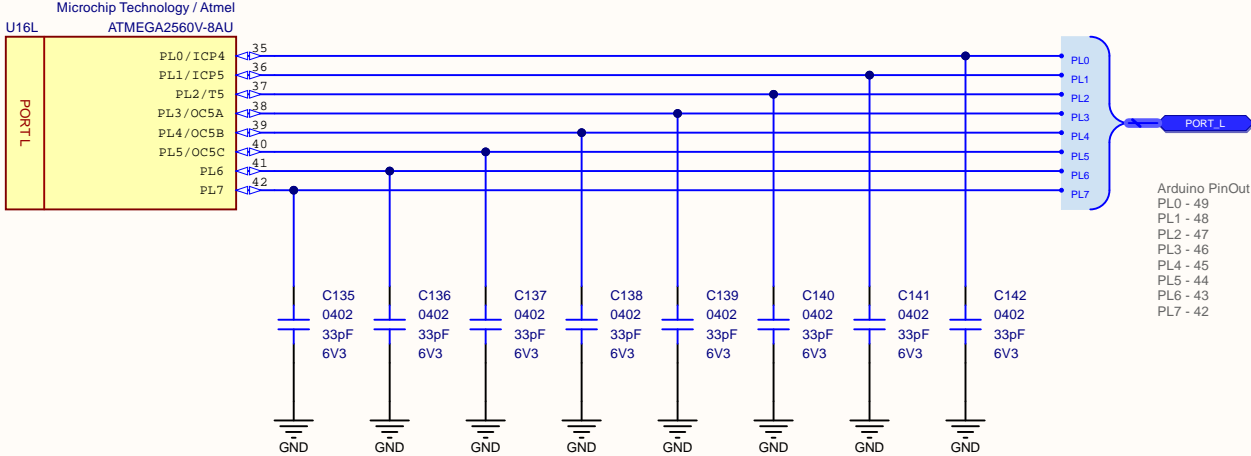
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Size: A4	Number:	Revision: B100AA		
Date: 11.01.2021	Time: 17:23:46	Sheet 23 of 39		
File: C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\Master MicroController Port J.SchDoc				


Master MicroController K Port



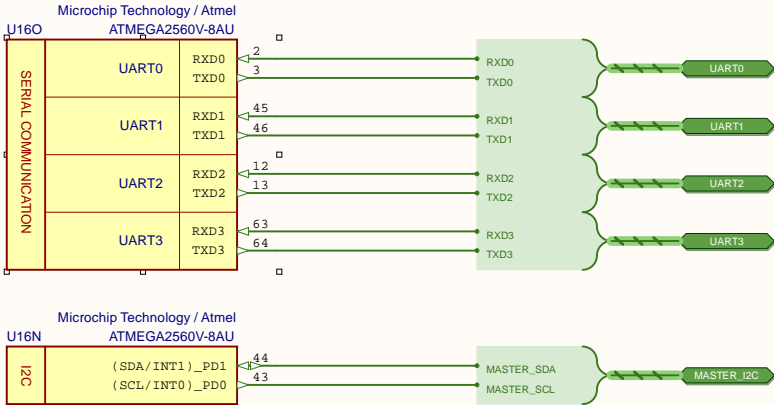


Master MicroController L Port

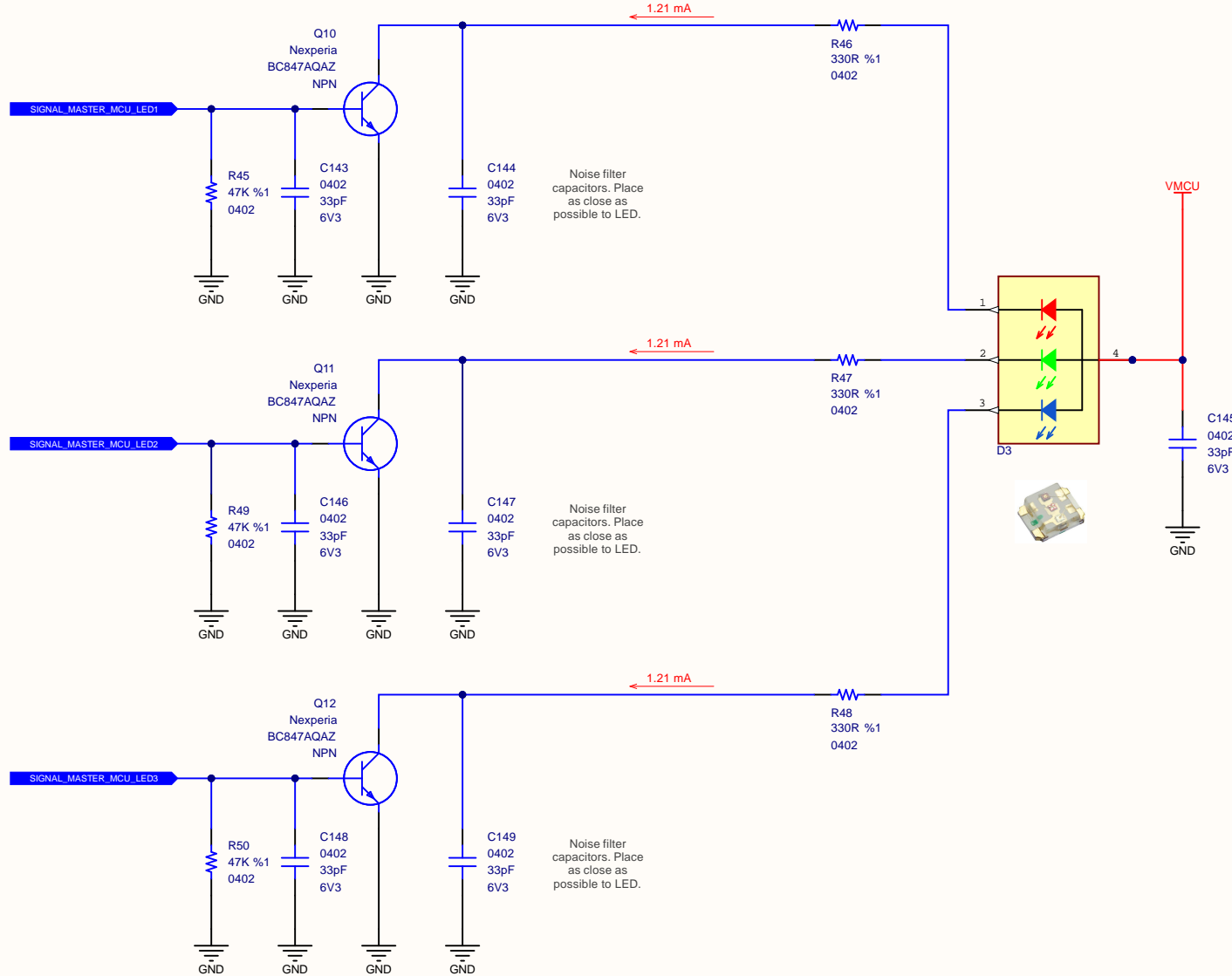



Title Master Micro Controller Port L Pin Out			Ovoo Electronics  Necip Fazıl Mah. Ortarmak Sok. Bırgölü Apt. No: 19/6 Meram / Konya Türkiye	
Size: A4	Number:	Revision: B100AA		
Date: 11.01.2021	Time: 17:23:46	Sheet 25 of 39		
File: C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\Master MicroController Port L.SchDoc				

Communication Ports



# Main Microcontroller Status LED Indicators



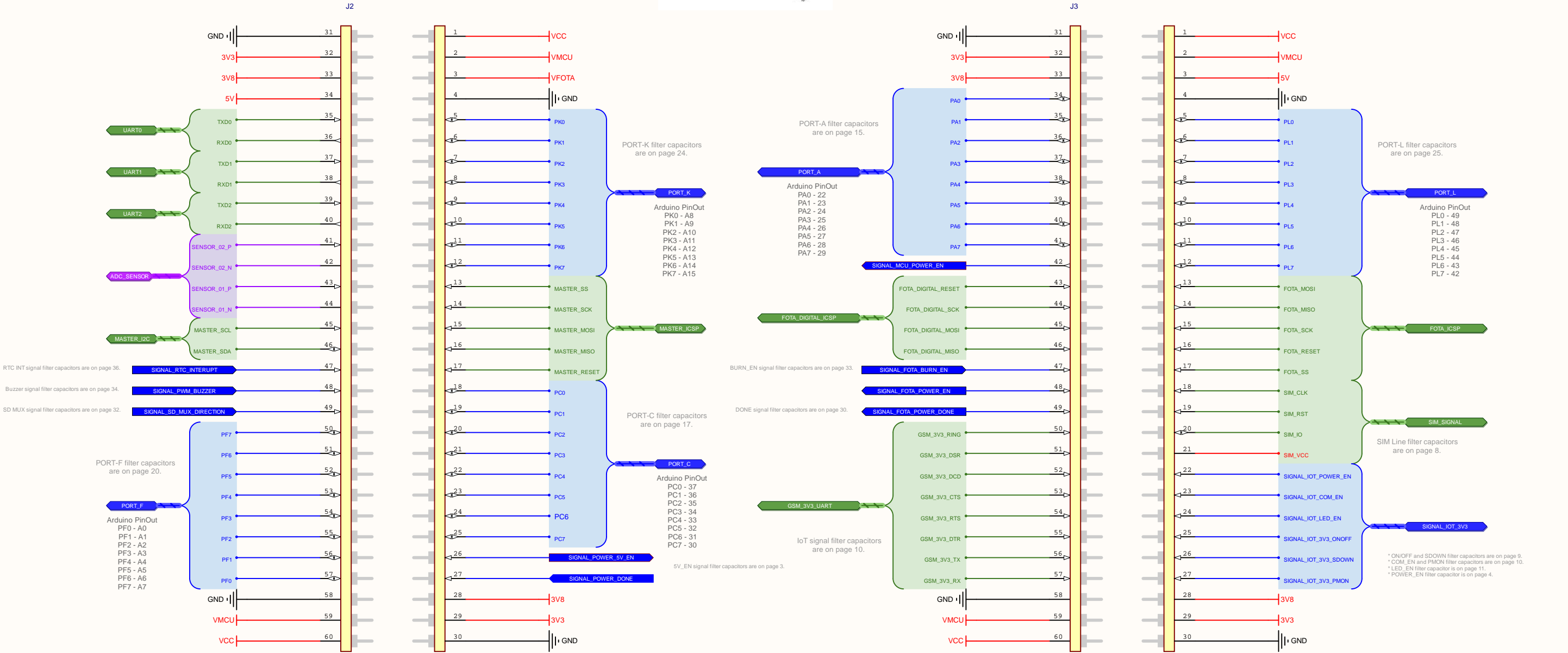
Title Master MicroController LED			Ovoo Electronics		
Size: A4		Number:	Revision: B100AA		
			Necip Fazıl Mah. Ortamak Sok. Bırgölü Apt. No: 19/6 Meram / Konya Türkiye		
Date: 11.01.2021	Time: 17:23:46	Sheet 28	of 39		
File: C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\Master MicroController LED.SchDoc					



Module Output Sockets

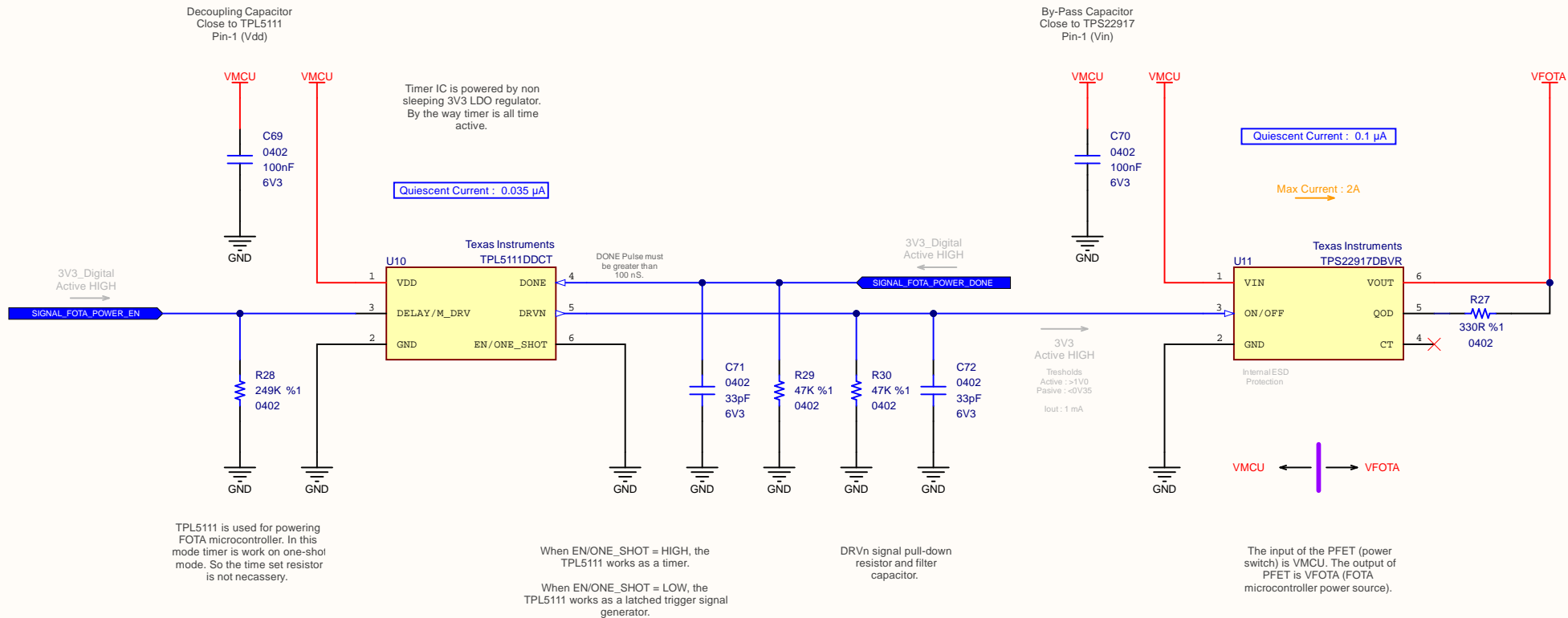


Module Output Sockets

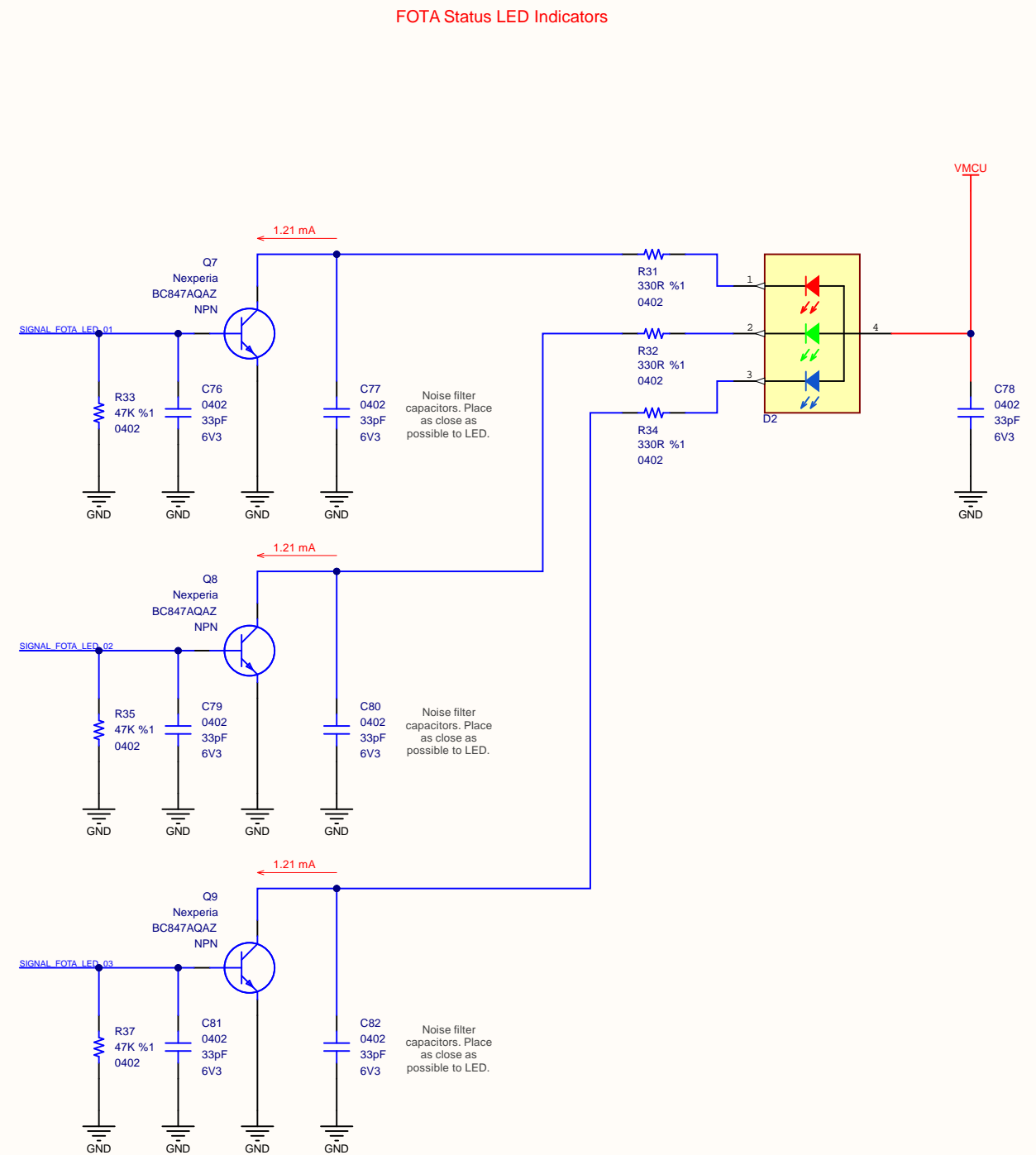
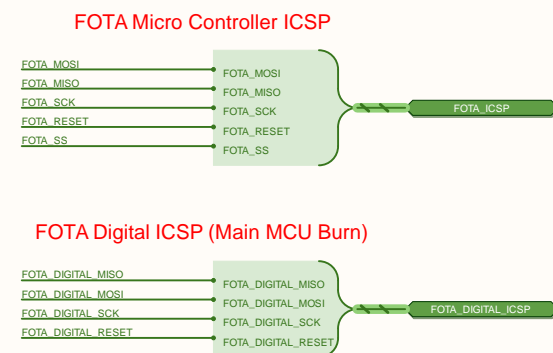
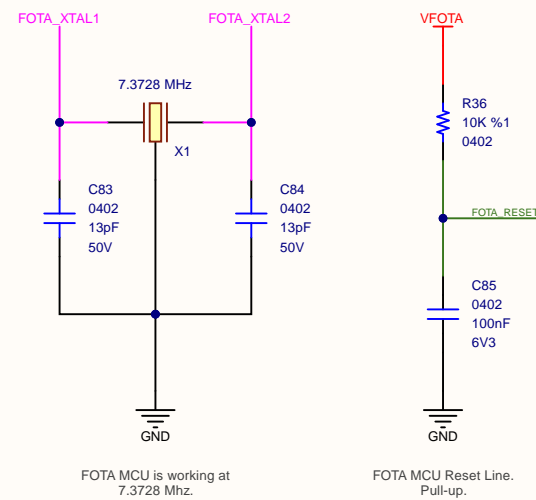
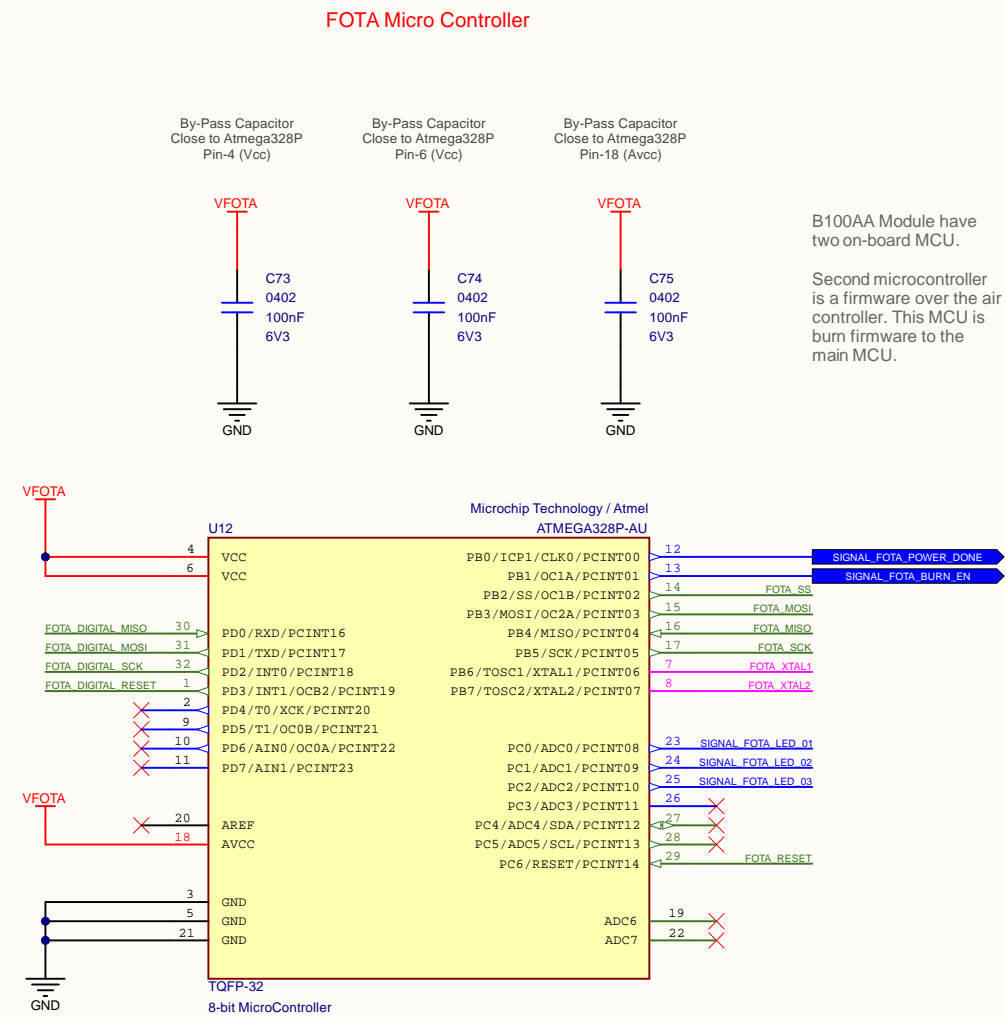



## Power Trigger

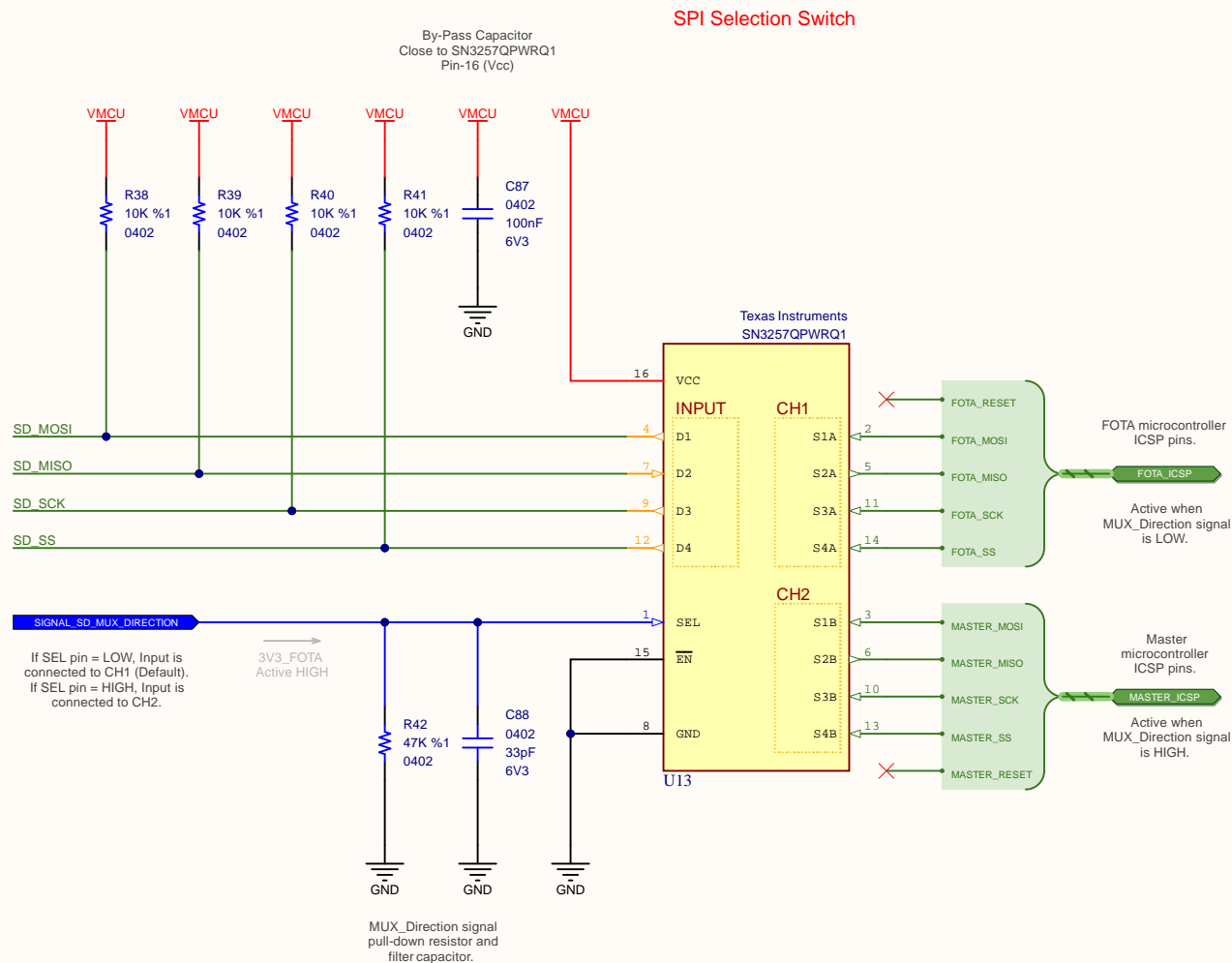
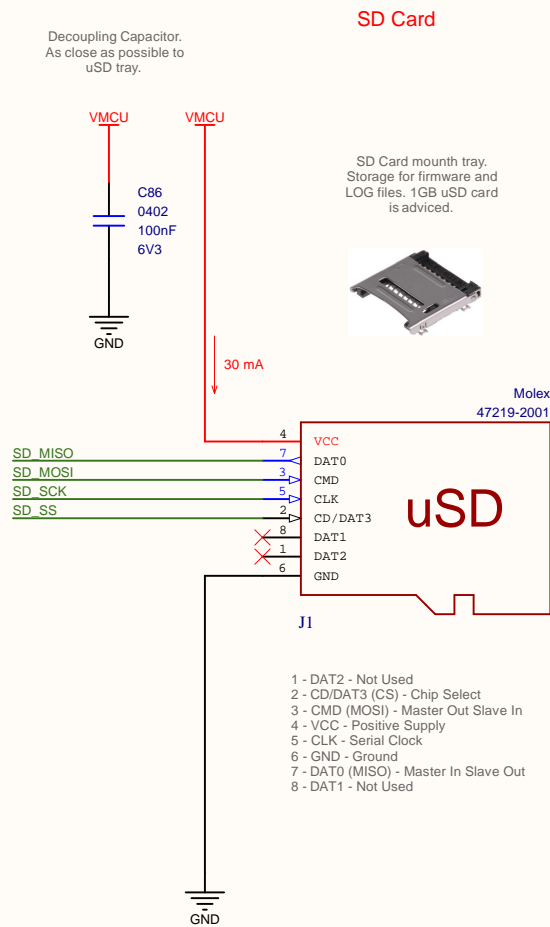
## Power Switch




Title <b>FOTA MicroController Latched Power Trigger</b>			<b>Ovoo Electronics</b>  Necip Fazıl Mah, Ortarmak Sok. Bırgölü Apt. No: 19/6 Meram / Konya Türkiye	
Size: <b>A4</b>	Number:	Revision: <b>B100AA</b>		
Date: <b>11.01.2021</b>	Time: <b>17:23:46</b>	Sheet <b>30</b> of <b>39</b>		
File: <b>C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\FOTA MicroController Power Switch.SchDoc</b>				



<b>Title</b> <b>FOTA MicroController</b>			<b>Ovoo Electronics</b> Necip Fazil Mah. Otaurmak Sok. Bırgöl Apt. No: 19/6 Meram / Konya Türkiye		
<b>Size:</b> <b>A3</b>	<b>Number:</b>	<b>Revision:</b> <b>B100AA</b>			
<b>Date:</b> <b>11.01.2021</b>	<b>Time:</b> <b>17:23:46</b>	<b>Sheet</b> <b>31</b>	<b>of</b> <b>39</b>		
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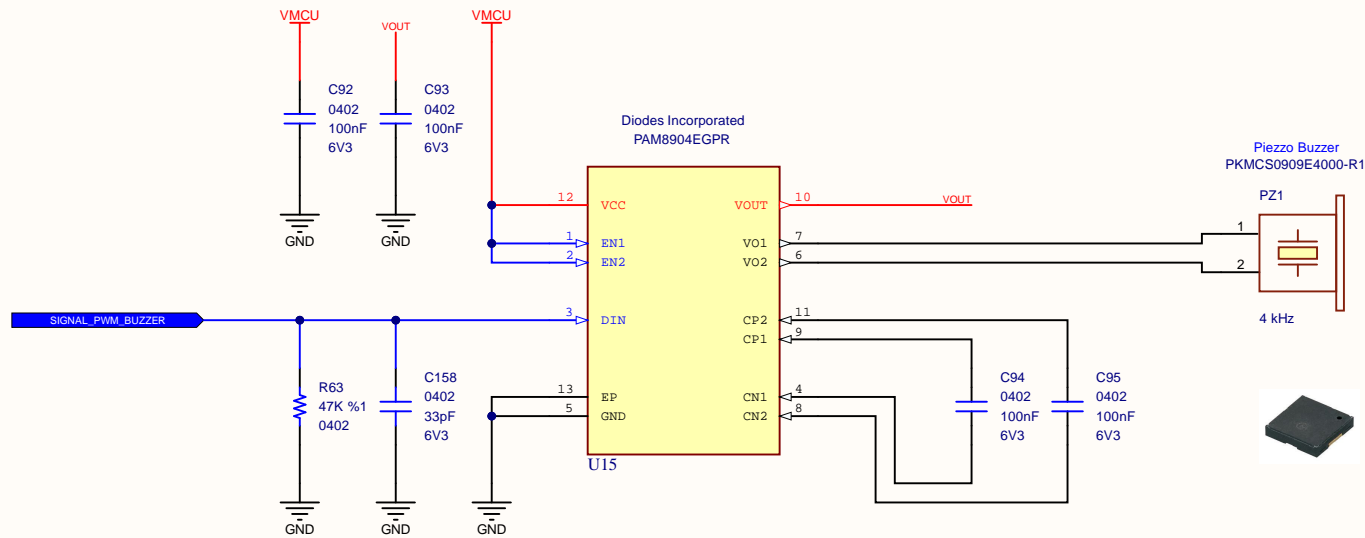


<b>Title</b> <b>SD Card &amp; Select Switch</b>			<b>Ovoo Electronics</b> Necip Fazıl Mah. Otaurmak Sok. Bırgöl Apt. No: 19/6 Meram / Konya Türkiye	
<b>Size:</b> <b>A4</b>	<b>Number:</b>	<b>Revision:</b> <b>B100AA</b>		
<b>Date:</b> <b>11.01.2021</b>	<b>Time:</b> <b>17:23:47</b>	<b>Sheet</b> <b>32</b> <b>of</b> <b>39</b>		
<b>File:</b> <b>C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\SD Card.SchDoc</b>				





## Piezzo Buzzer



Title **Buzzer**

Size: **A4**

Number:

Revision: **B100AA**

Date: **11.01.2021**

Time: **17:23:47**

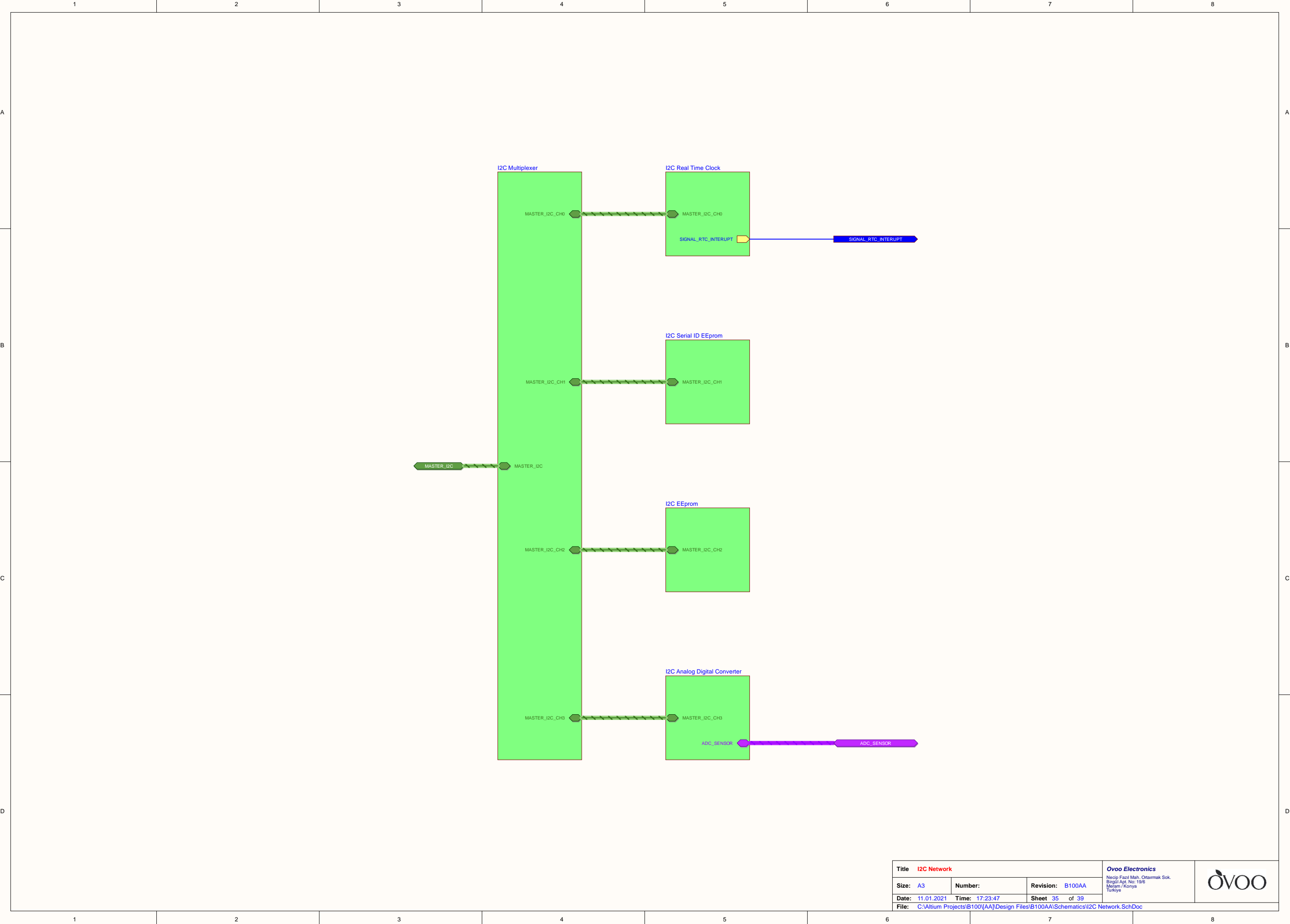
Sheet **34** of **39**

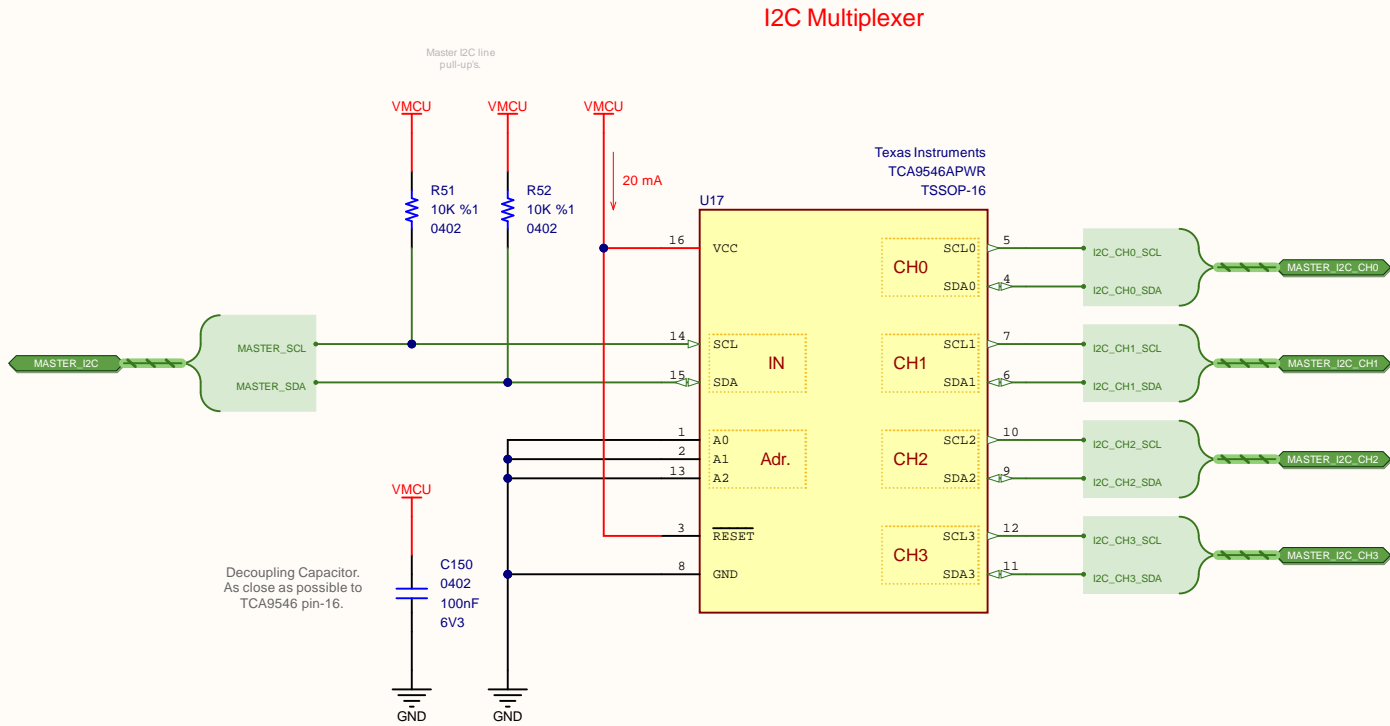
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**Ovoo Electronics**

Necip Fazıl Mah. Ortarmak Sok.  
Bırgölü Apt. No: 19/6  
Meram / Konya  
Türkiye

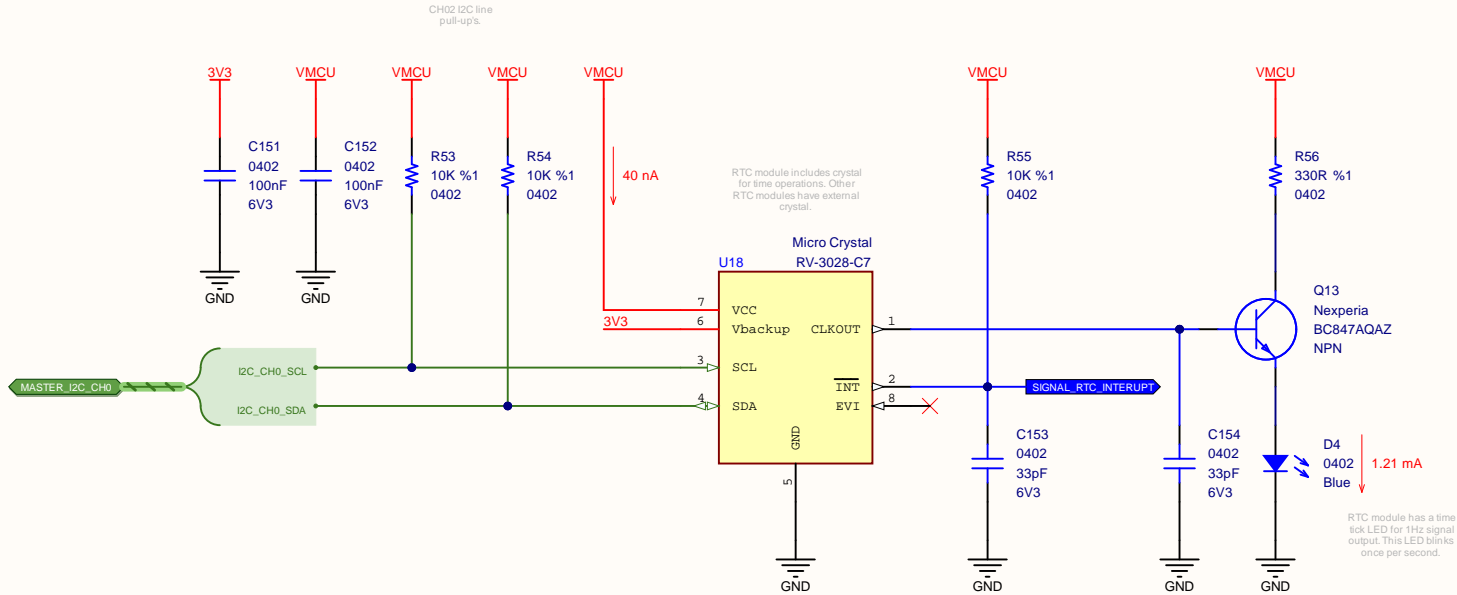
**ovoo**



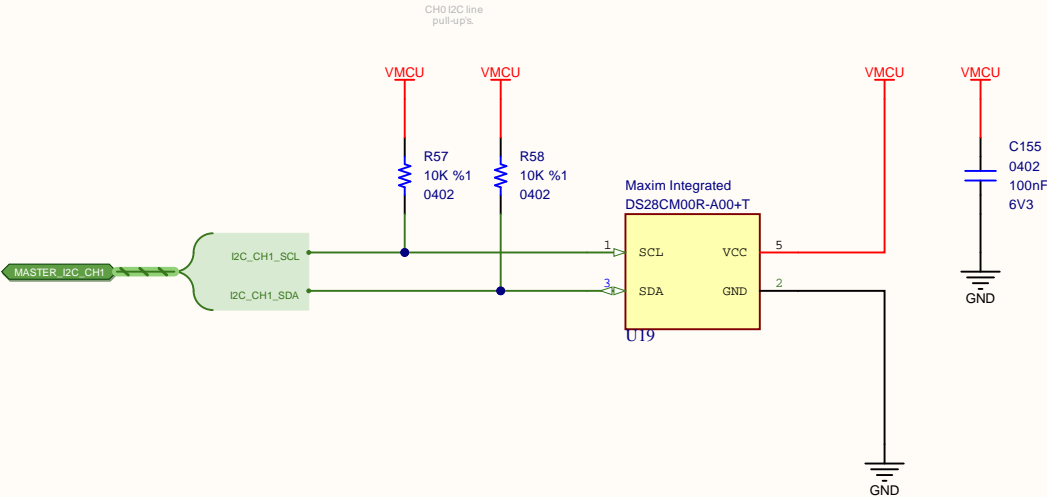



Title <b>I2C Multiplexer</b>			<b>Ovoo Electronics</b> Necip Fazıl Mah. Ortarmak Sok. Birgölü Apt. No: 19/6 Meram / Konya Türkiye	
Size: <b>A4</b>	Number:	Revision: <b>B100AA</b>		
Date: <b>11.01.2021</b>	Time: <b>17:23:47</b>	Sheet <b>35</b> of <b>39</b>		
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Real Time Clock



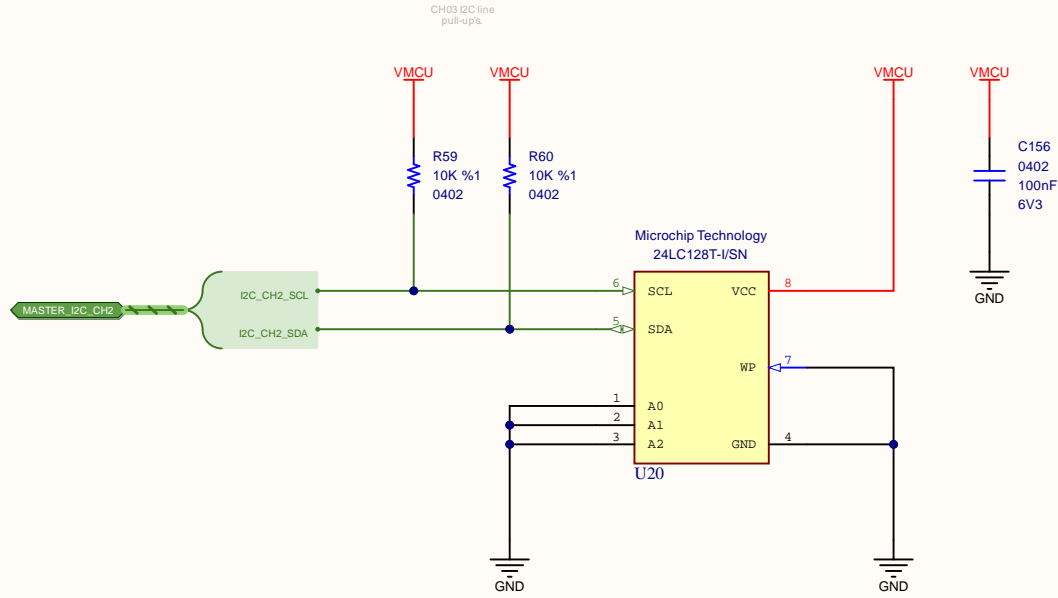
I2C Serial ID EEPROM




Title I2C Serial ID EEPROM			Ovoo Electronics		
Size: A4	Number:	Revision: B100AA	Necip Fazıl Mah. Ortarmak Sok. Bırgölü Apt. No: 19/6 Meram / Konya Türkiye		
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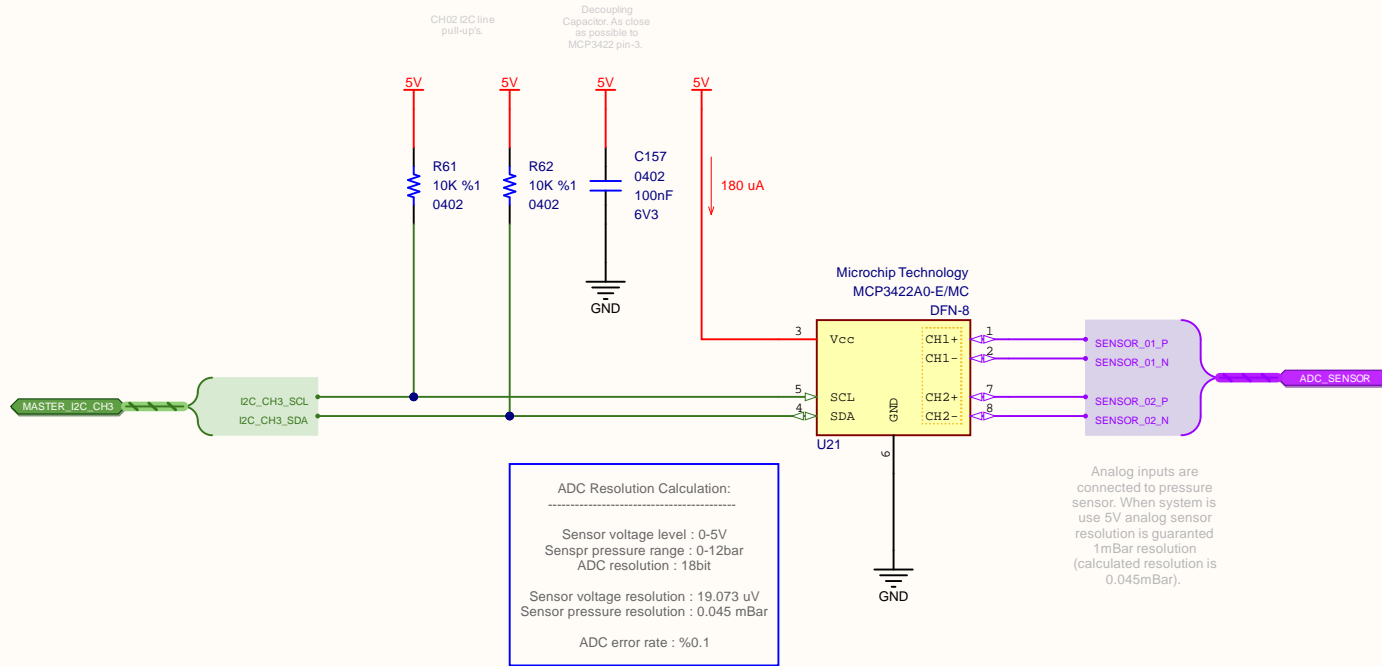



## EEPROM



Title <b>I2C EEprom</b>			<b>Ovoo Electronics</b>		
Size: <b>A4</b>	Number:	Revision: <b>B100AA</b>	Necip Fazıl Mah. Ortarmak Sok. Bırgölü Apt. No: 19/6 Meram / Konya Türkiye		
Date: <b>11.01.2021</b>	Time: <b>17:23:47</b>	Sheet <b>38</b> of <b>39</b>			
File: <b>C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\EEPROM.SchDoc</b>					

## Analog Digital Converter



Title <b>Analog Digital Converter</b>			<b>Ovoo Electronics</b>  Necip Fazıl Mah. Ortarmak Sok. Bırgöl Apt. No: 19/6 Meram / Konya Türkiye	
Size: <b>A4</b>	Number:	Revision: <b>B100AA</b>		
Date: <b>11.01.2021</b>	Time: <b>17:23:47</b>	Sheet <b>39</b> of <b>39</b>		
File: <b>C:\Altium Projects\B100\AA\Design Files\B100AA\Schematics\Analog Digital Converter.SchDoc</b>				