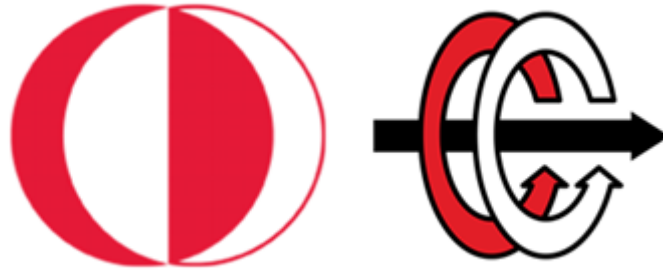


**MIDDLE EAST TECHNICAL UNIVERSITY  
DEPARTMENT OF ELECTRICAL & ELECTRONICS  
ENGINEERING**



**TROY TECH  
WEEKLY REPORT #9  
08.11.2018-11.12.2018**

**Section : 7**

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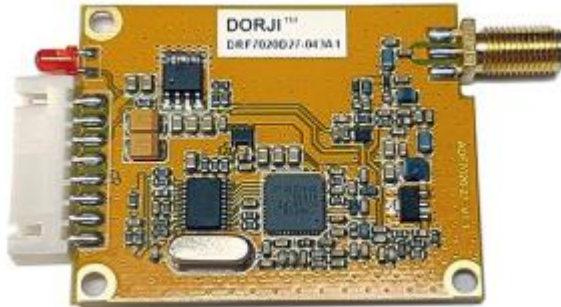
Mustafa Ercan OKATAN - 2031193

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### Progresses for Previous Week:

→ We searched about increasing the range of wireless command transfer and found different options:

a) Using 433MHz 500mw Data radio modem DRF7020D27



Advantages:

- Long range with default antennas (>5000m)

Disadvantages:

- Expensive (25\$ each)
- Consumes lots of power

b) Using Yagi 2.4GHz 25dbi WiFi RP-SMA Antenna with NRF24L01 module



Advantages:

- Very long range with NRF24L01 wireless module (30-50km)

Disadvantages:

- Dimensions are big (44.4cm\*6.8cm\*1.6cm)
- Weight 230g
- Expensive (12\$ each)

nRF24L01 with Yagi 14km challenge: <https://www.youtube.com/watch?v=TGnOn5YThg8>

nRF24L01 with Yagi 30km challenge: <https://www.youtube.com/watch?v=4XRp7pkZgPM>

c) Using Dark 2.4Ghz 15dBi





Advantages:

- Cheap (4.23\$ each)
- Dimensions are more suitable than Yagi antenna

Disadvantages:

- Not found a test result

- ➔ We searched about increasing the range of video transfer. We will connect following two different antennas to our FPV Receiver module (ROTG02) to increase maximum range:

DYS FPV Mushroom Antenna ( 5.8GHz 4dBi)	Realacc Triple Feed Fetch Antenna (5.8GHz 9.4dBi)
	
Price: \$4.75	Price: \$9.99

### **Plans for the Next Week:**

- ➔ Testing the range of wireless command transfer using Dark 2.4Ghz 15dBi Antenna with NRF24L01
- ➔ Driving the motor using PI/PID controller.
- ➔ Uniting PS1 joystick and command transfer modules.
- ➔ Discussing about test results.