Antenna Design Challenge

Team Event, Open-To-All

Points: 20

Problem statement:
You have to design and fabricate an antenna such that it receives the maximum signal transmitted by the transmitter.
The surroundings and constraints are defined below:
1. Transmitting frequency = 146 MHz
2. Transmitter: icom ic-v8 transceiver.
3. Height of transmitter from the ground: 1.5 meter.
4. Height of receiving antenna from the ground: 1.5 meter.
5. Linear distance between transmitter and receiving antenna = 50 meter.
6. Material for antenna must be only Aluminium (provided by the club).
7. Maximum weight of the antenna = 300 grams.

Rules:
1. At max 2 teams can participate from each pool.
2. No. of member per team: at max 4.
3. Material and equipment's will be provided by the club.
4. Using Field Strength Meter the strength of the signal received by your antenna is recorded and the team with highest signal strength will be given 1_{st} position, team with second highest signal strength will be given 2_{nd} position, team with third highest signal strength will be given 3_{rd} position and team with fourth highest signal strength will be given 4_{th} position.
5. Team without the fabrication of the antenna is disqualified.
6. In case of a tie, the team designing antenna with minimum weight would be given a higher position.
7. If still there is a tie at some position, then average points will be equally distributed to both the teams , e.g. there may be a tie between 1_{st} and 2_{nd} position, then 16 points will be given to both the teams instead of giving 20 and 12.
8. If only three teams fabricate the antenna then only three positions will be declared which means that a team has to fabricate its antenna design to hold a position. (MIC)

The decision of organizers would be final and binding for all participants in all rounds.