

## INTRODUCTION

In order to achieve scientific targets of given space mission, there was decided about usage of laser ranging means for precision orbit determination of satellite “Specter-R”.

According to this decision there were 100 angle reflectors FA674M installed on Sat. “Specter-R”.

This report gives overview of the general configuration of “Specter-R” satellite, scheme of angle reflectors’ lay-out on “Specter-R” satellite, diagram of numeration of angle reflectors, general configuration of angle reflector FA674M and also there are coordinates of phase centers of angle reflectors FA674M and coordinates of center of mass in “Specter-R” satellite’s base coordinate system provided.

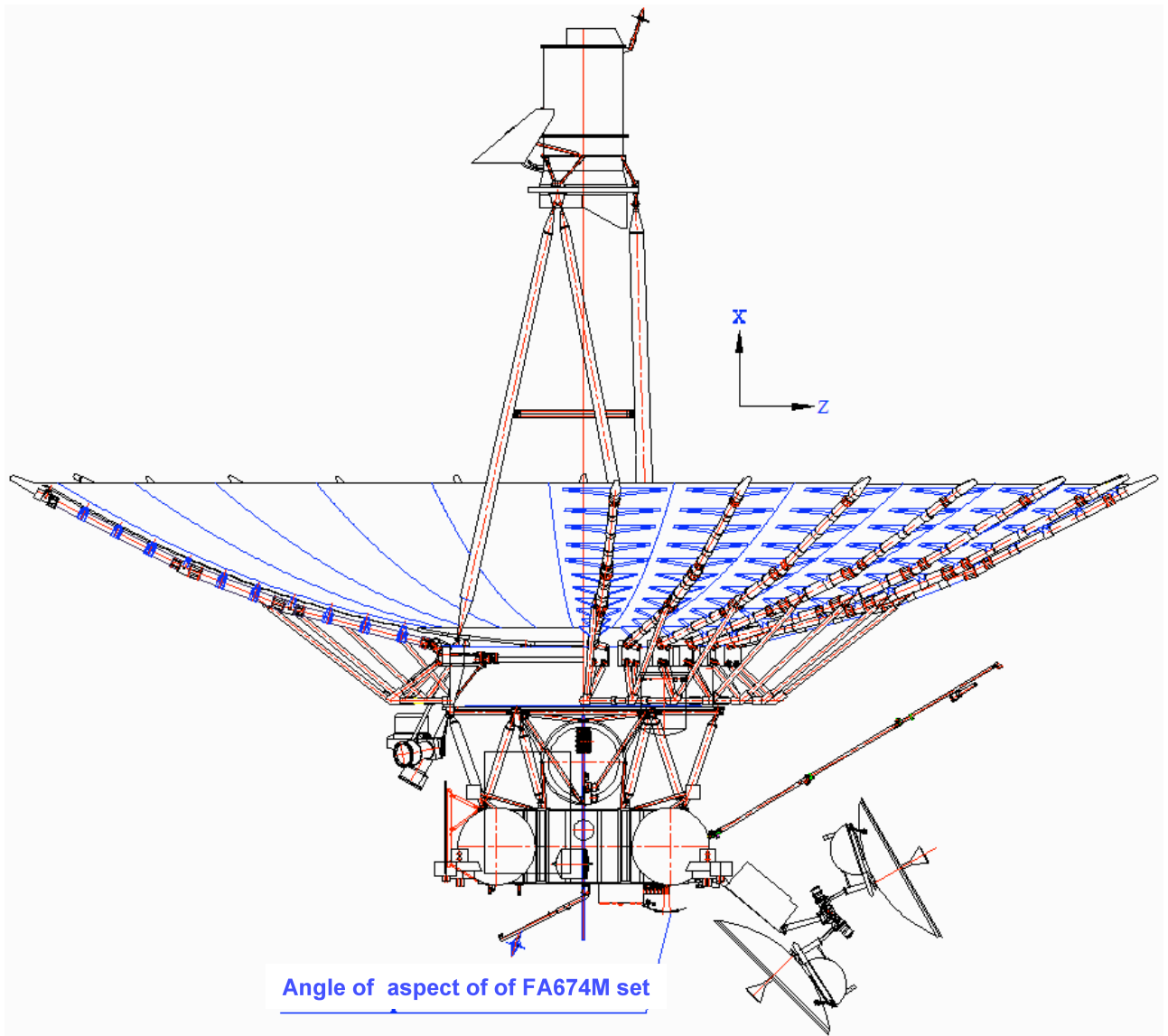


Figure 1. General configuration of "Specter-R" satellite

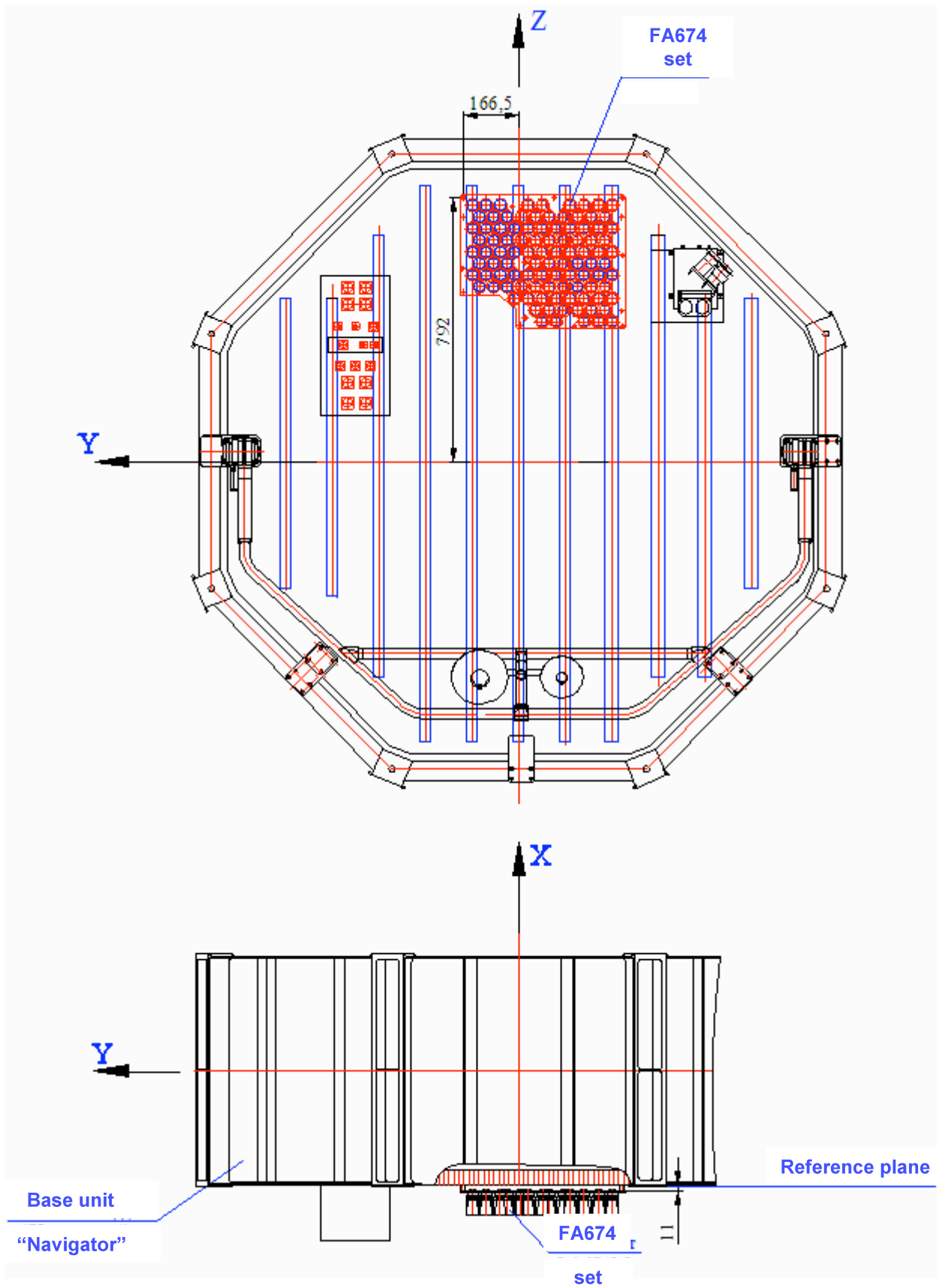


Figure 2. Layout of FA674M on "Specter-R" satellite

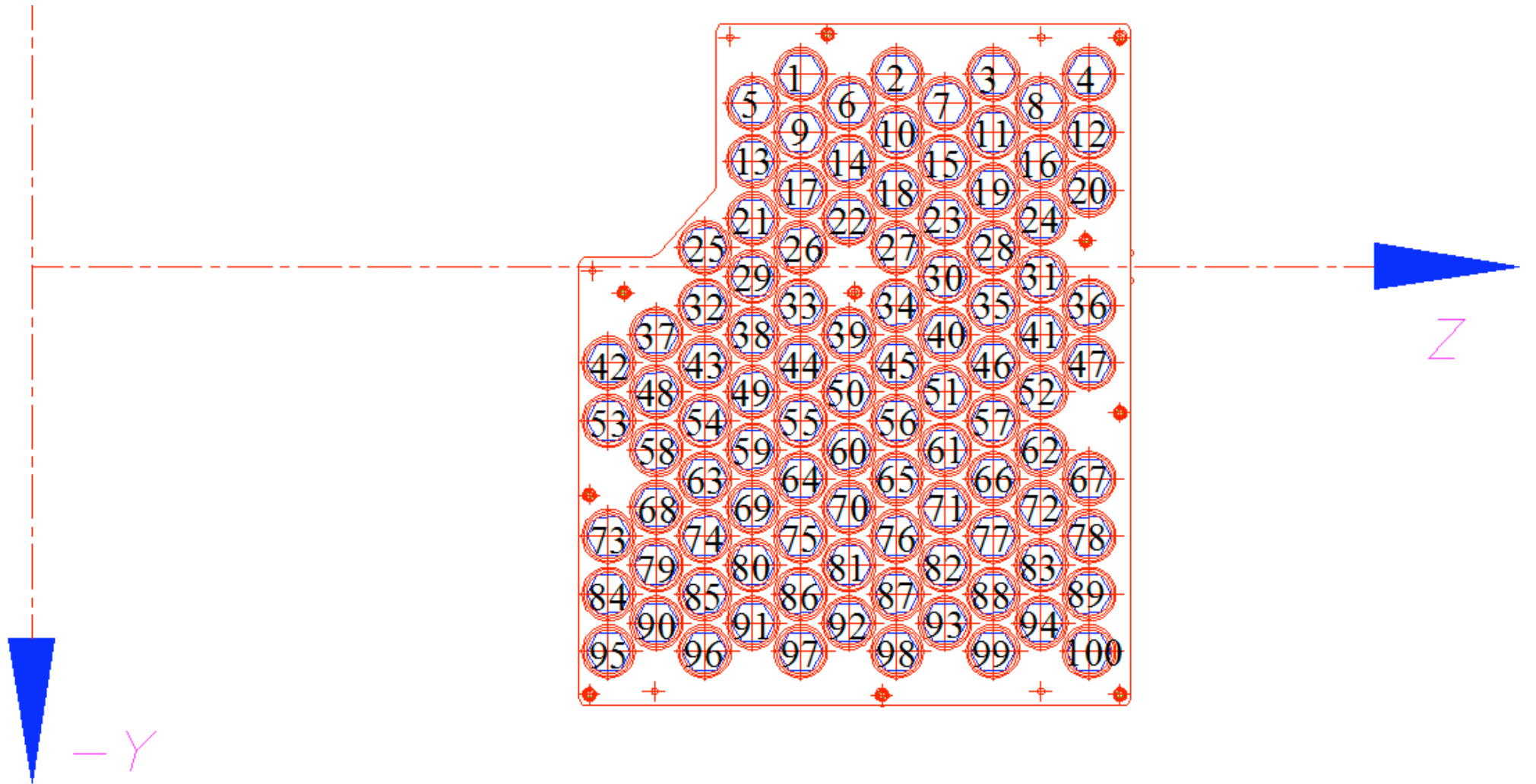


Figure 3. Numeration of FA674M

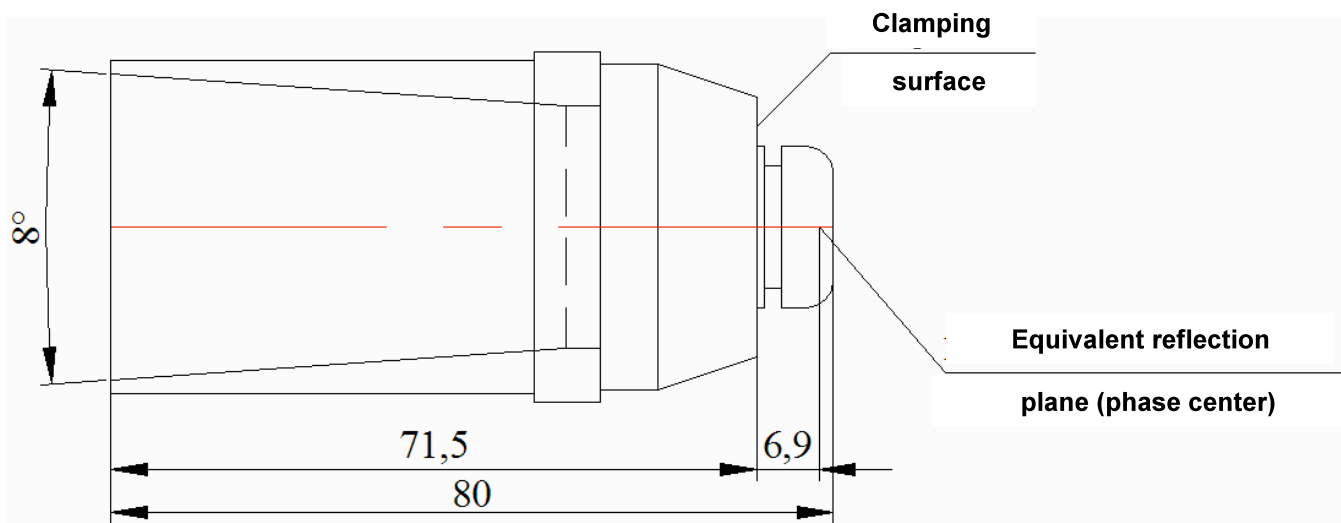


Figure 4. General configuration of FA674M

**Coordinates of phase center of angle reflectors FA674M number 1-34 in  
satellite's base coordinate system**

№, Yo	X, mm	Y, mm	Z, mm
1	-11	+139.75	559.75
2	-11	+139.15	629.75
3	-11	+139.75	699.75
4	-11	+139.75	769.75
5	-11	+118.75	524.75
6	-11	+118.75	534.75
7	-11	+118.75	664.75
8	-11	+118.75	734.75
9	-11	+97.75	559.75
10	-11	+97.75	629.75
11	-11	+97.75	699.75
12	-11	+97.75	769.75
13	-11	+76.75	524.75
14	-11	+76.75	594.75
15	-11	+76.75	664.75
16	-11	+76.75	734.75
17	-11	+55.75	559.75
18	-11	+55.75	629.75
19	-11	+55.75	699.5
20	-11	+55.75	769.75
21	-11	+34.75	524.75
22	-11	+34.75	594.75
23	-11	+34.75	664.75
24	-11	+34.75	734.75
25	-11	-13.75	489.75
26	-11	-13.75	559.75
27	-11	-13.75	629.75
28	-11	-13.75	699.75
29	-11	-7.75	524.75
30	-11	-7.75	664.75
31	-11	-7.75	734.75
32	-11	-28.75	489.75
33	-11	-28.75	559.75
34	-11	-28.75	629.75

**Coordinates of phase center of angle reflectors FA674M number 35-68 in  
satellite's base coordinate system**

<b>№, Yo</b>	<b>X, mm</b>	<b>Y, mm</b>	<b>Z, mm</b>
35	-11	-28.75	699.75
36	-11	-28.75	769.75
37	-11	-49.75	454.75
38	-11	-49.75	524.75
39	-11	-49.75	594.75
40	-11	-49.75	664.75
41	-11	-49.75	734.75
42	-11	-70.75	419.75
43	-11	-70.75	489.75
44	-11	-70.75	559.75
45	-11	-70.75	629.75
46	-11	-70.75	699.75
47	-11	-70.75	769.75
48	-11	-91.75	454.75
49	-11	-91.75	524.75
50	-11	-91.75	594.75
51	-11	-91.75	664.75
52	-11	-91.75	734.75
53	-11	-112.75	419.75
54	-11	-112.75	489.75
55	-11	-112.75	559.75
56	-11	-112.75	629.75
57	-11	-112.75	699.75
58	-11	-133.75	454.75
59	-11	-133.75	524.75
60	-11	-133.75	594.75
61	-11	-133.75	664.75
62	-11	-133.75	734.75
63	-11	-154.75	489.75
64	-11	-154.75	559.75
65	-11	-154.75	629.75
66	-11	-154.75	699.75
67	-11	-154.75	769.75
68	-11	-175.75	454.75

**Coordinates of phase center of angle reflectors FA674M number 69-100 in  
satellite's base coordinate system**

№, Yo	X, mm	Y, mm	Z, mm
69	-11	-175.75	524.75
70	-11	-175.75	594.75
71	-11	-175.75	664.75
72	-11	-175.75	734.75
73	-11	-196.75	419.75
74	-11	-196.75	489.75
75	-11	-196.75	559.75
76	-11	-196.75	629.75
77	-11	-196.75	699.75
78	-11	-196.75	769.75
79	-11	-217.75	454.75
80	-11	-217.75	524.75
81	-11	-217.75	594.75
82	-11	-217.75	664.75
83	-11	-217.75	734.75
84	-11	-238.75	419.75
85	-11	-238.75	489.75
86	-11	-238.75	559.75
87	-11	-238.75	629.75
88	-11	-238.75	699.75
89	-11	-238.75	769.75
90	-11	-259.75	454.75
91	-11	-259.75	524.75
92	-11	-259.75	594.75
93	-11	-259.75	664.75
94	-11	-259.75	734.75
95	-11	-280.75	419.75
96	-11	-280.75	489.75
97	-11	-280.75	559.75
98	-11	-280.75	629.75
99	-11	-280.75	699.75
100	-11	-280.75	769.75



**Coordinates of center of mass of satellite in satellite's base coordinate system**

Name	Mass, kg	Coordinates of center of mass		
		X, m	Y, m	Z, m
Sat. Specter-R , loaded in open state	3768,075	2,052	-0,001	0,021
Sat. Specter-R after fuel depletion	3600,085	2,141	-0,005	0,045