

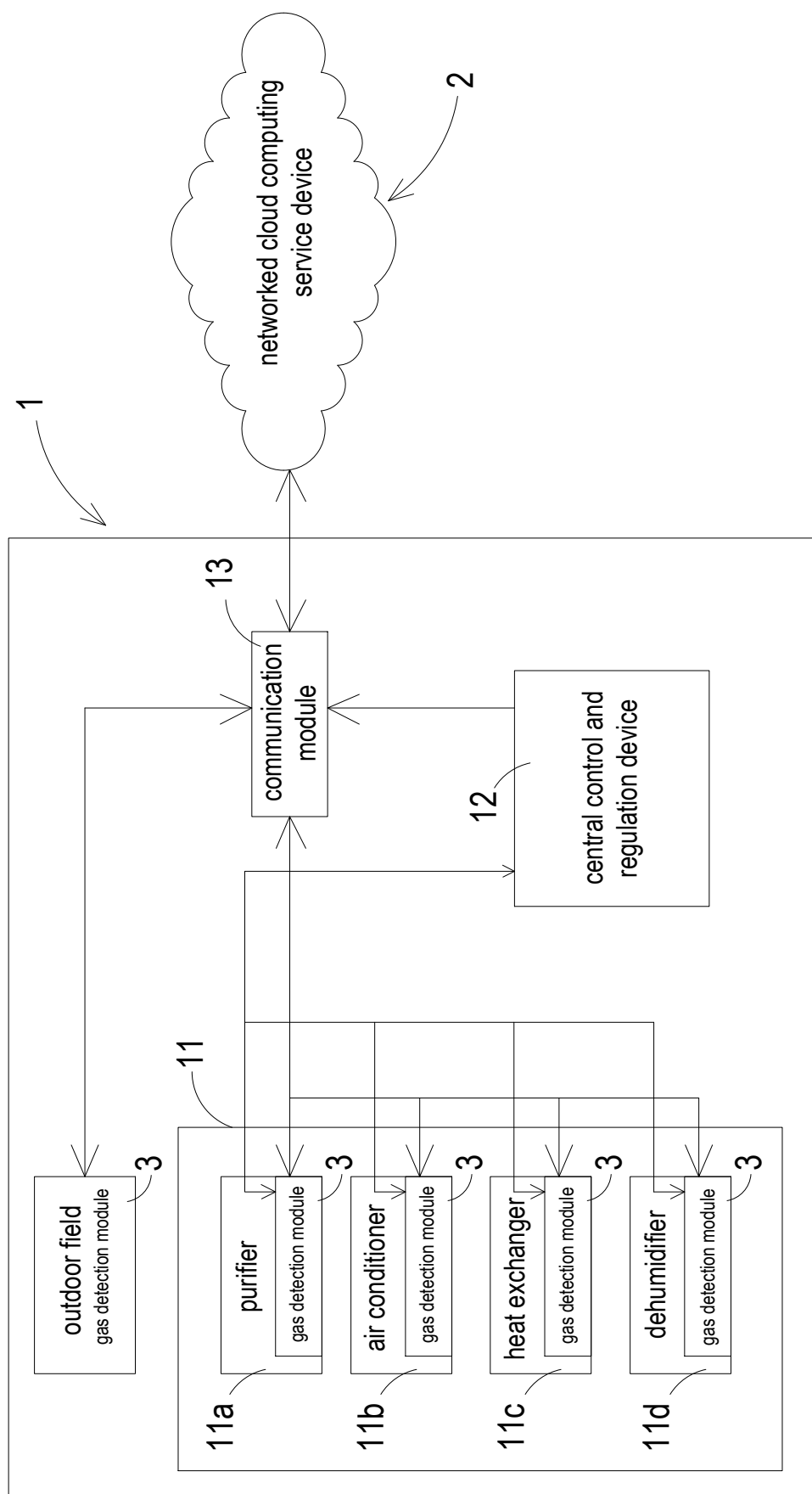


FIG. 1A

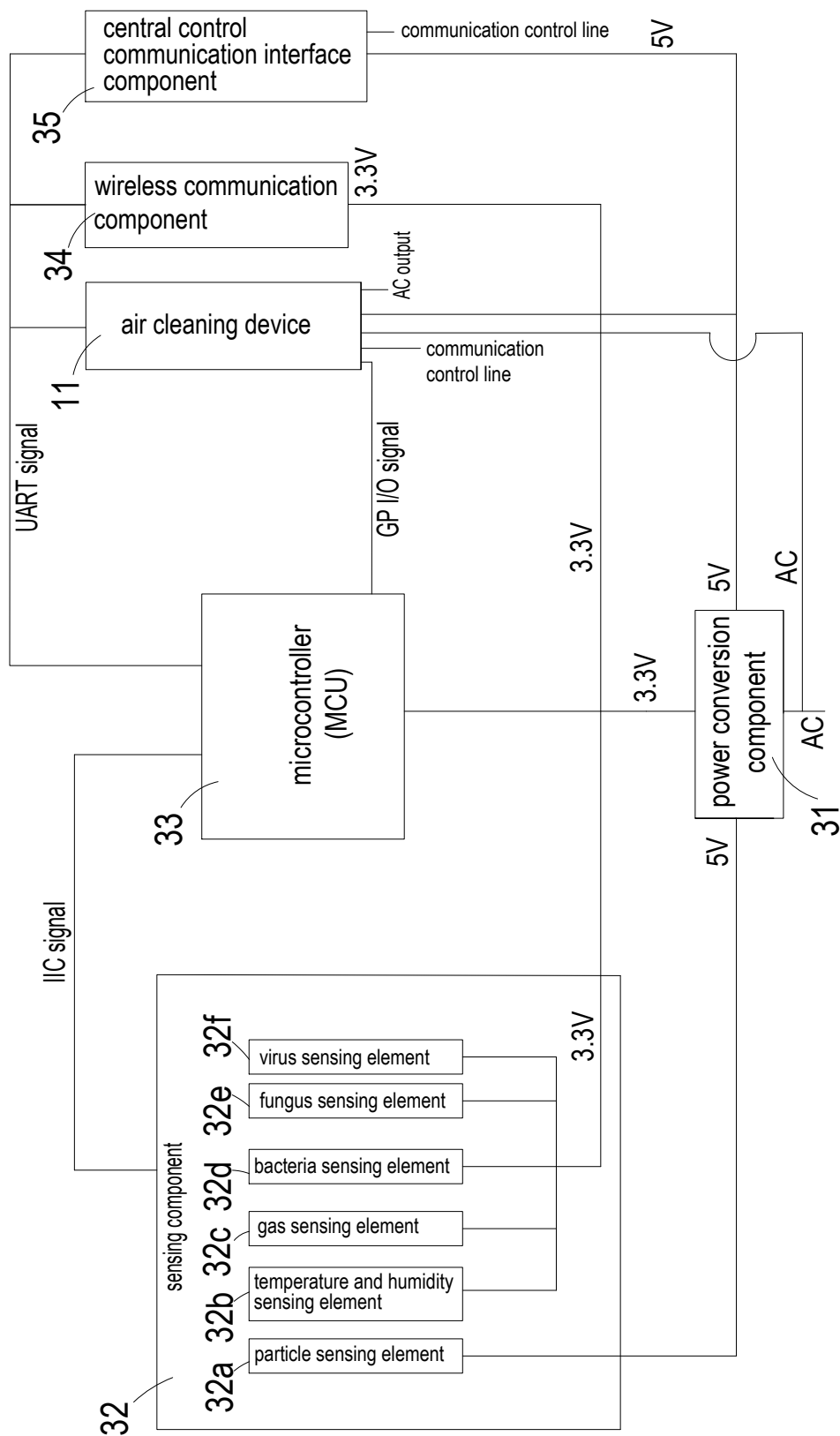


FIG. 2

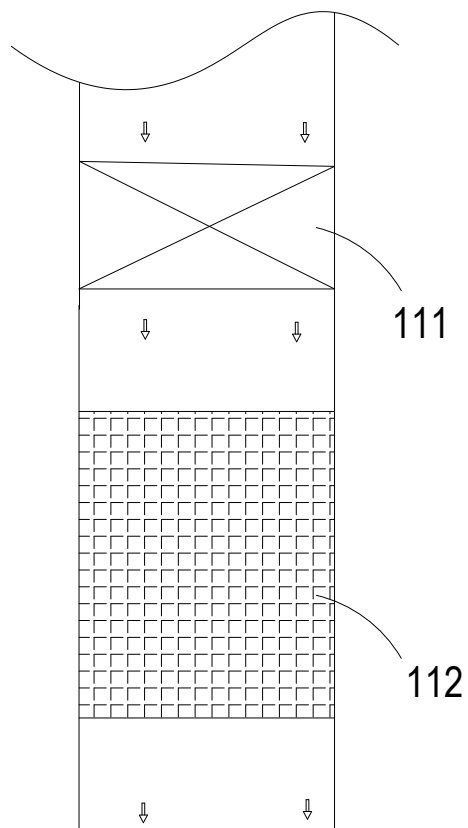


FIG. 3A

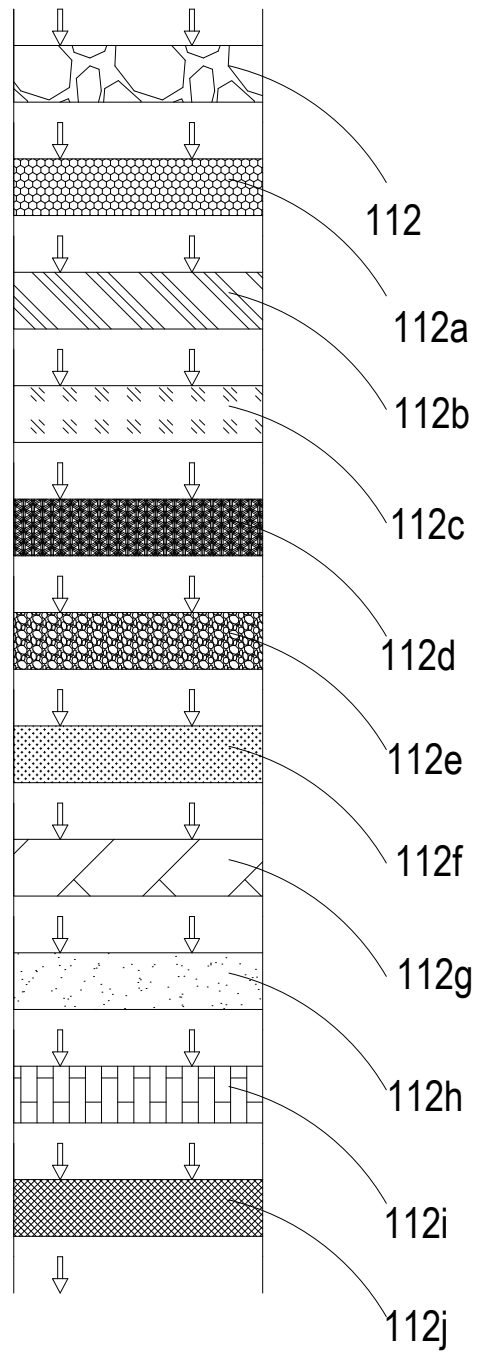


FIG. 3B

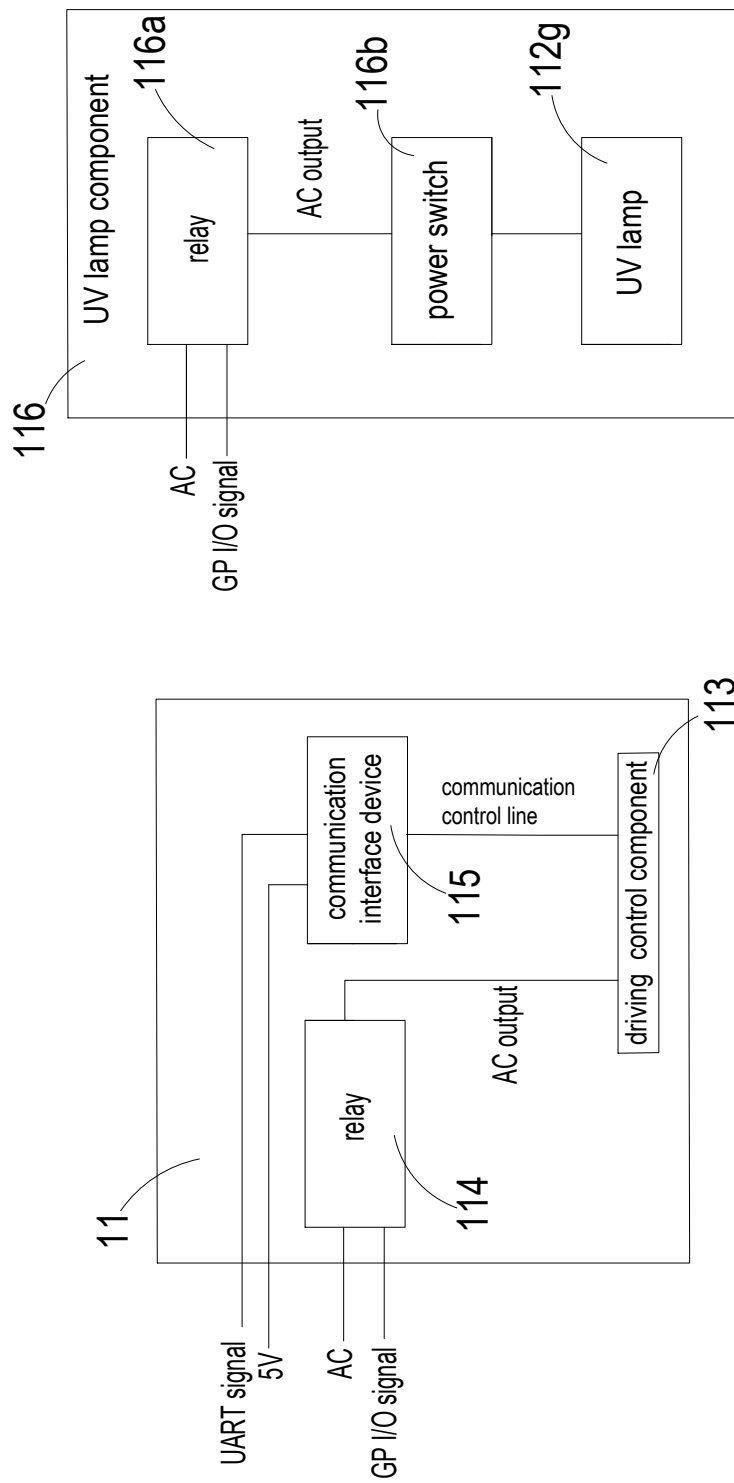


FIG. 3C

FIG. 3D



FIG. 4A

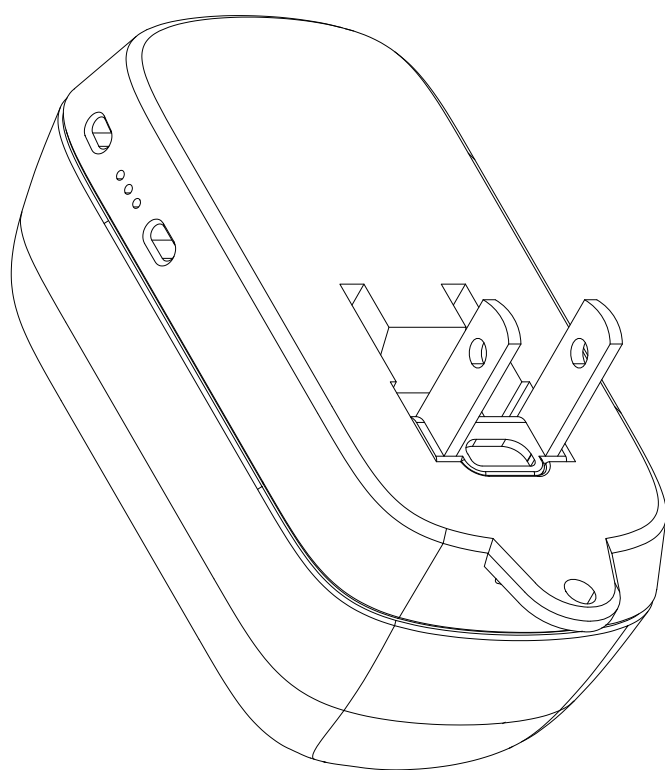


FIG. 4B

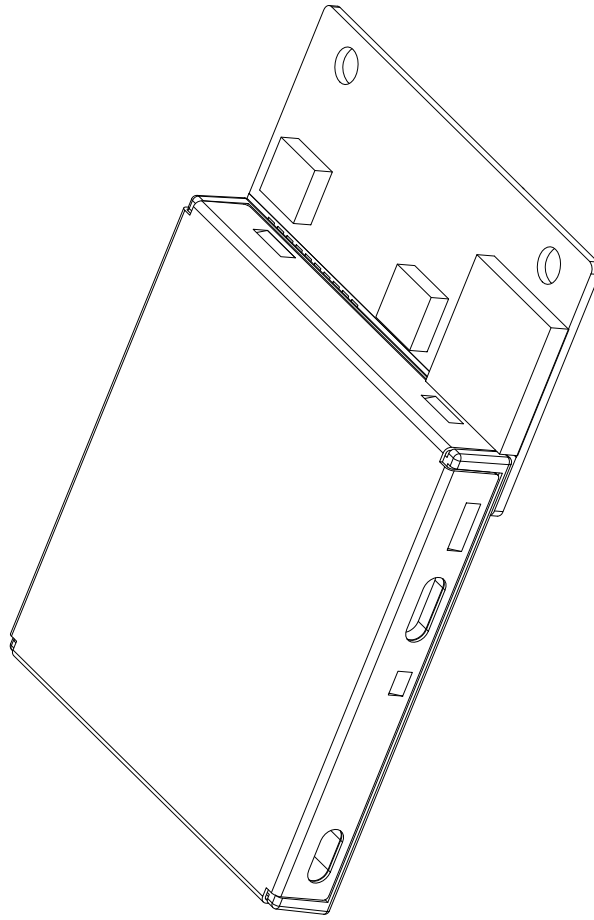


FIG. 4C

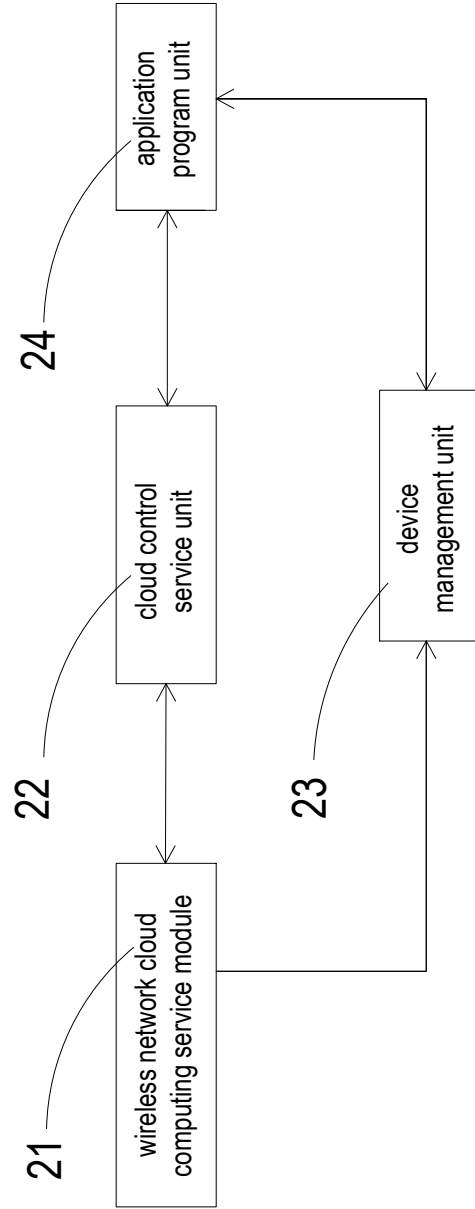


FIG. 5

clean room	level	cumulative number of PM2.5 inhaled particles detected in 24 hours	required indoor field space for one air cleaning device (ping)	required indoor field space for one air cleaning device (m ²)	required indoor field space for one air cleaning device (ft ²)	PM2.5 µg/m ³	PM10 µg/m ³	bacteria number of colonies	fungus number of colonies	formaldehyde (ppm)	TVOC (ppm)	CO ₂ (ppm)	CO (ppm)
ZAPClean room	1	500,000	0.7	2.4	25.6	0.02	0.03	2	2	0.032	0.24	800	4
ZAPClean room	2	1,000,000	1	3.4	36.6	0.04	0.06	5	5	0.038	0.27	800	4
ZAPClean room	3	2,500,000	1.5	4.9	52.3	0.11	0.16	10	10	0.044	0.30	800	5
ZAPClean room	4	5,000,000	2	6.9	74.7	0.20	0.32	30	30	0.05	0.33	800	5
ZAPClean room	5	10,000,000	3	9.9	106.8	0.40	0.64	80	60	0.056	0.37	800	6
ZAPClean room	6	25,000,000	5	16.5	177.9	1.0	1.6	200	150	0.062	0.41	800	7
ZAPClean room	7	50,000,000	7	23.6	254.2	2.10	3.20	500	350	0.068	0.45	800	7
ZAPClean room	8	100,000,000	10	33.7	363.1	4.20	6.40	1000	750	0.074	0.50	1000	8
ZAPClean room	9	200,000,000	15	48.2	518.7	8.50	12.70	1500	1000	0.08	0.56	1000	9

clean room	level	cumulative number of PM2.5 inhaled suspended particles detected in 24 hours	required indoor field space for one air cleaning device (ping)	required indoor field space for one air cleaning device (m ²)	required indoor field space for one air cleaning device (ft ²)	O ₃ (ppm)	methane (ppm)	toluene (ppm)	NO (ppm)	NO ₂ (ppm)	SO ₂ (ppm)	radon (Rn) (Bq/m ³)
ZAPClean room	1	500,000	0.7	2.4	25.6	0.020	9	43	0.043	0.043	0.032	40
ZAPClean room	2	1,000,000	1	3.4	36.6	0.025	10	48	0.048	0.048	0.036	45
ZAPClean room	3	2,500,000	1.5	4.9	52.3	0.030	11	53	0.053	0.053	0.040	51
ZAPClean room	4	5,000,000	2	6.9	74.7	0.035	12	59	0.059	0.059	0.044	57
ZAPClean room	5	10,000,000	3	9.9	106.8	0.040	13	66	0.066	0.066	0.049	64
ZAPClean room	6	25,000,000	5	16.5	177.9	0.045	14	73	0.073	0.073	0.055	72
ZAPClean room	7	50,000,000	7	23.6	254.2	0.050	16	81	0.081	0.081	0.061	81
ZAPClean room	8	100,000,000	10	33.7	363.1	0.055	18	90	0.090	0.090	0.068	90
ZAPClean room	9	200,000,000	15	48.2	518.7	0.060	20	100	0.100	0.100	0.075	100

FIG. 6