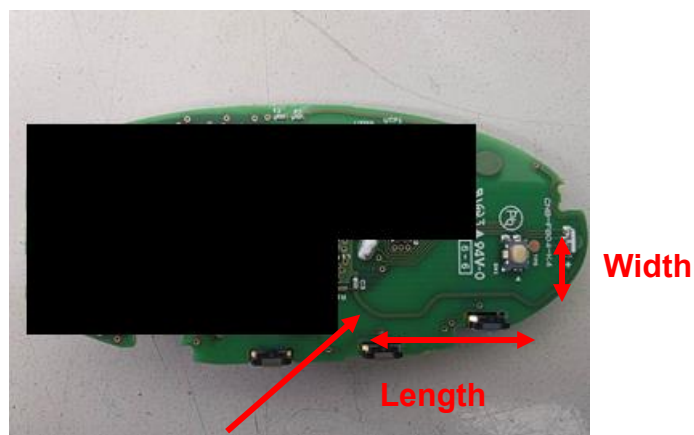


Antenna Information

– FOB

Item	Contents
Antenna Type	PCB Pattern Antenna
Operation Frequency	433.92 MHz
Antenna peak gain	-10.43 dB i
Manufacturer / Model name	Hyundai Mobis Co., Ltd. / -
Address of manufacturer	203, Teheran-ro, Gangnam-gu, Seoul, Republic of Korea, 06141
Test Laboratory	-
Antenna Length	3.0 cm
Antenna Width	1.8 cm

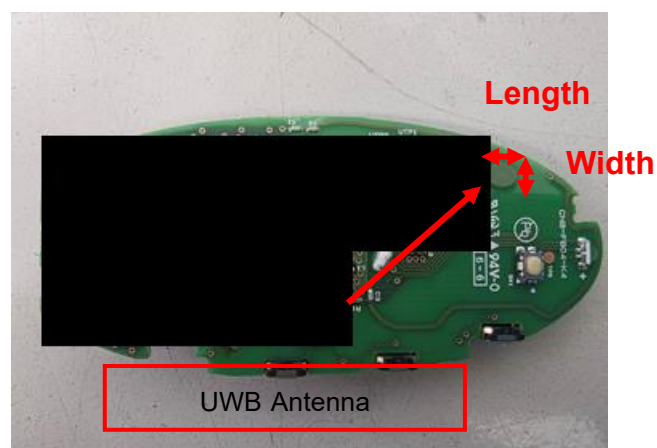


433.92 MHz Antenna

Antenna Information

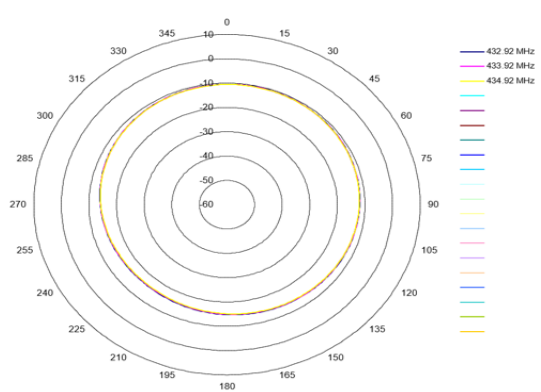
– UWB

Item	Contents
Antenna Type	PCB Pattern Antenna
Operation Frequency	7 987.2 MHz
Antenna peak gain	1.22 dB i
Manufacturer / Model name	Hyundai Mobis Co., Ltd. / -
Adress of manufacturer	203, Teheran-ro, Gangnam-gu, Seoul, Republic of Korea, 06141
Test Laboratory	-
Antenna Length	0.5 cm
Antenna Width	0.5 cm



433.92 MHz

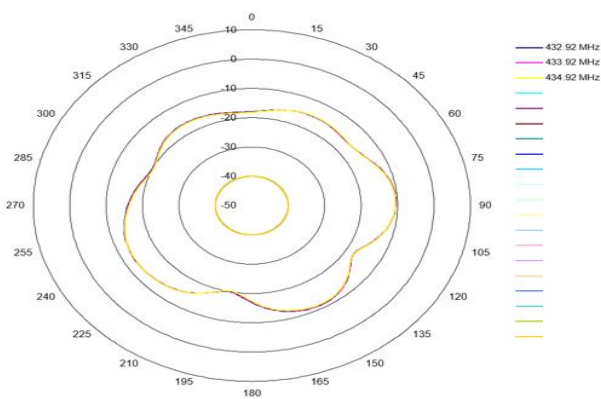
2D 측정_ H Plane



	<i>f</i>	<i>Avg</i>	<i>Peak</i>		<i>Min</i>		<i>HPBW</i>
	<i>MHz</i>	<i>dBi</i>	<i>dBi</i>	<i>deg</i>	<i>dBi</i>	<i>deg</i>	<i>deg</i>
1	432.92	-12.46	-10.38	10	-16.00	222	
2	433.92	-12.55	-10.43	7	-16.18	222	
3	434.92	-12.63	-10.48	12	-16.36	223	

Avg -12.55 dBi

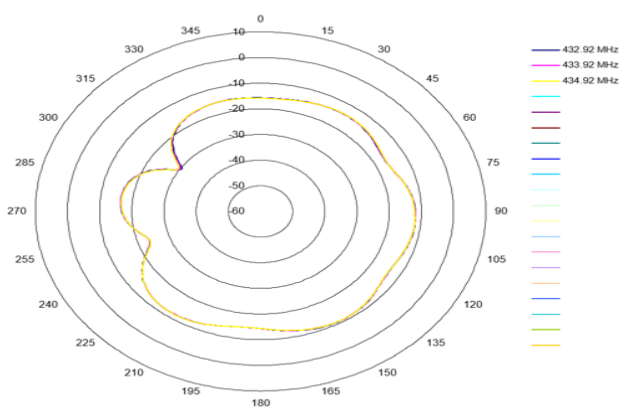
2D 측정_ E1 Plane



	<i>f</i>	<i>Avg</i>	<i>Peak</i>		<i>Min</i>		<i>HPBW</i>
	<i>MHz</i>	<i>dBi</i>	<i>dBi</i>	<i>deg</i>	<i>dBi</i>	<i>deg</i>	<i>deg</i>
1	432.92	-14.57	-10.39	88	-19.96	191	
2	433.92	-14.64	-10.44	88	-20.16	191	
3	434.92	-14.69	-10.50	88	-20.31	191	

Avg -14.63 dBi

2D 측정_ E2 Plane

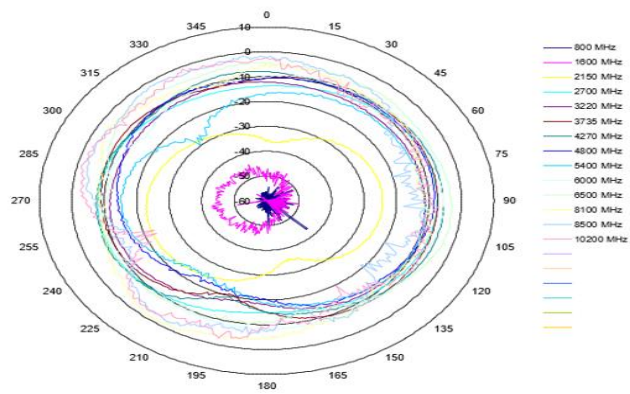


	<i>f</i>	<i>Avg</i>	<i>Peak</i>		<i>Min</i>		<i>HPBW</i>
	<i>MHz</i>	<i>dBi</i>	<i>dBi</i>	<i>deg</i>	<i>dBi</i>	<i>deg</i>	<i>deg</i>
1	432.92	-14.29	-10.66	149	-30.45	304	
2	433.92	-14.32	-10.70	150	-29.96	303	
3	434.92	-14.33	-10.74	150	-29.54	303	

Avg -14.32 dBi

UWB

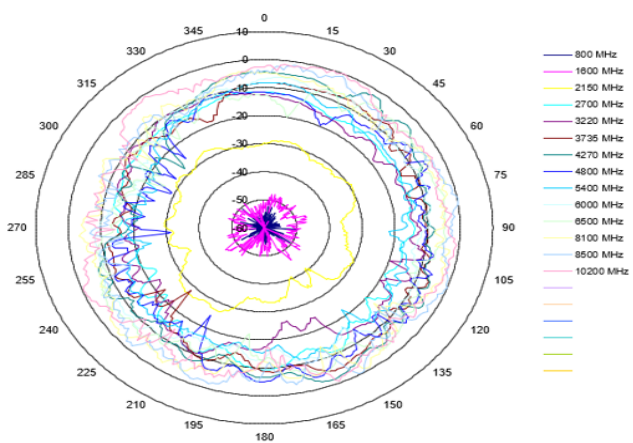
2D 측정_ H Plane



	f	Avg		Peak		Min		HPBW
		MHz	dBi	dBi	deg	dBi	deg	
1	800	-59.03	-53.17	145	-76.80	312		
2	1600	-48.29	-42.83	261	-69.05	79		
3	2150	-26.16	-22.33	248	-36.70	3		
4	2700	-10.14	-7.44	89	-14.93	175		
5	3220	-12.51	-10.76	114	-19.03	188		
6	3735	-9.43	-7.25	90	-20.65	196		
7	4270	-8.53	-5.38	98	-19.40	196		
8	4800	-11.50	-8.17	80	-23.07	213		
9	5400	-15.01	-10.13	111	-29.66	318		
10	6000	-8.51	-5.34	93	-14.87	305		
11	6500	-8.29	-2.67	101	-14.35	160		
12	8100	-6.35	-0.99	215	-13.47	81		
13	8500	-6.01	-1.40	353	-20.98	131		
14	10200	-6.19	-1.00	334	-23.57	251		

Avg -9.39 dBi

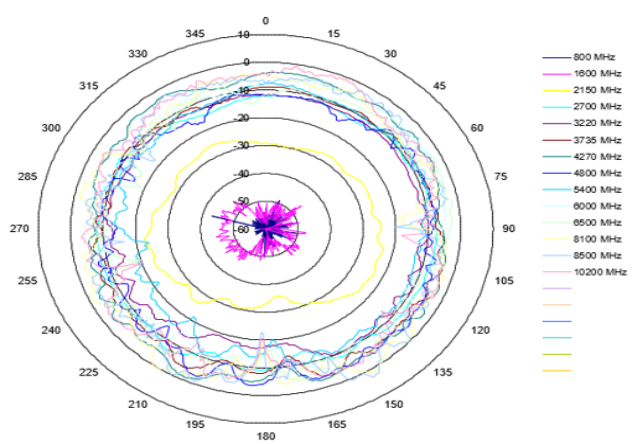
2D 측정_ E1 Plane



	f	Avg		Peak		Min		HPBW
		MHz	dBi	dBi	deg	dBi	deg	
1	800	-58.04	-52.50	19	-70.71	273		
2	1600	-51.09	-45.75	145	-65.10	342		
3	2150	-30.69	-26.79	222	-40.70	139		
4	2700	-13.81	-9.29	180	-23.68	245		
5	3220	-14.27	-9.82	321	-26.05	168		
6	3735	-10.11	-4.69	156	-28.47	225		
7	4270	-7.28	-1.79	158	-27.90	311		
8	4800	-10.47	-4.13	161	-31.39	267		
9	5400	-13.82	-8.06	7	-25.04	261		
10	6000	-9.97	-6.10	8	-20.59	289		
11	6500	-8.24	-3.45	139	-26.41	296		
12	8100	-5.93	-0.72	147	-18.44	305		
13	8500	-4.93	0.33	80	-17.72	252		
14	10200	-4.21	0.16	24	-17.53	179		

Avg -9.15 dBi

2D 측정_ E2 Plane



	f	Avg		Peak		Min		HPBW
		MHz	dBi	dBi	deg	dBi	deg	
1	800	-58.05	-53.19	86	-77.15	106		
2	1600	-50.09	-44.46	259	-62.09	91		
3	2150	-26.62	-22.64	264	-35.67	172		
4	2700	-9.67	-7.07	215	-14.85	339		
5	3220	-12.29	-9.42	151	-19.21	201		
6	3735	-7.91	-3.50	159	-13.79	172		
7	4270	-4.58	-1.12	205	-10.19	174		
8	4800	-8.15	-2.90	202	-17.15	334		
9	5400	-11.58	-7.55	3	-23.84	262		
10	6000	-7.68	-2.48	65	-17.54	177		
11	6500	-7.62	-2.01	80	-19.96	254		
12	8100	-4.71	1.22	147	-19.43	85		
13	8500	-5.10	2.94	148	-22.69	182		
14	10200	-5.46	-0.64	9	-20.47	252		

Avg -8.08 dBi