

## Antenna Information

Item	Contents	
Frequency	433.92 MHz	6 489.6 MHz
Antenna Type	PCB Pattern Antenna	
Antenna peak gain	-11.61 dB i	0.78 dB i
Manufacturer / Model name	Hyundai Mobis Co., Ltd. / -	
Address of manufacturer	203, Teheran-ro, Gangnam-gu, Seoul, South Korea, 135-977	
Test Laboratory	RadiAnt Co., Ltd	EMTI
Antenna Length	32 mm	5 mm
Antenna Width	23 mm	5 mm

Model name: FOB-4F87U54

# Test Result

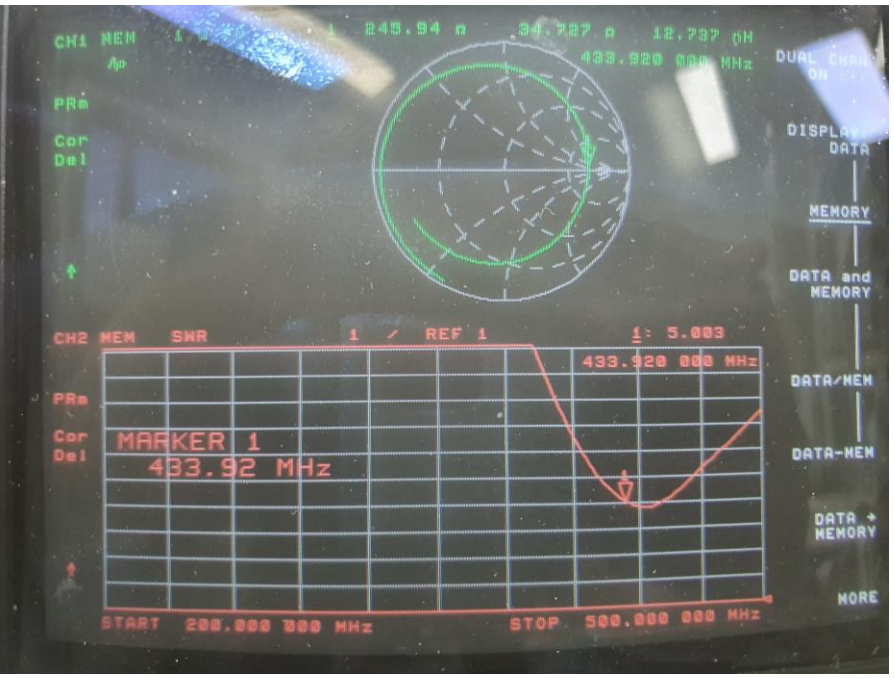
CUSTOMER : 현대모비스

**스마트키Fob 433.92MHz Radiation Pattern data**

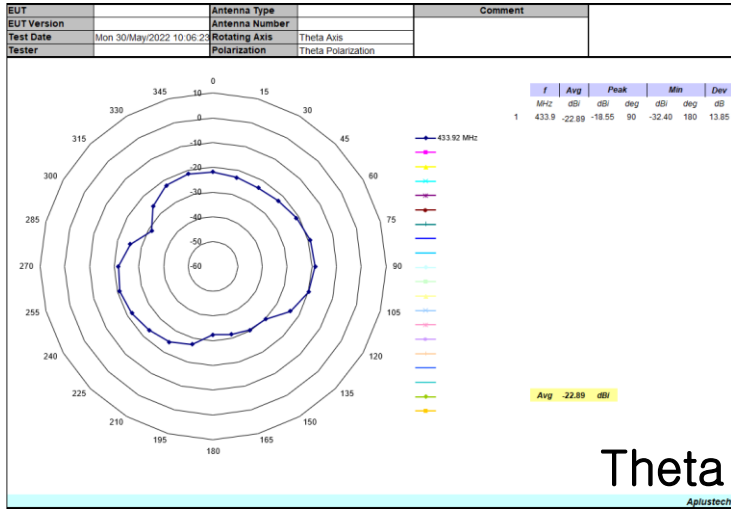
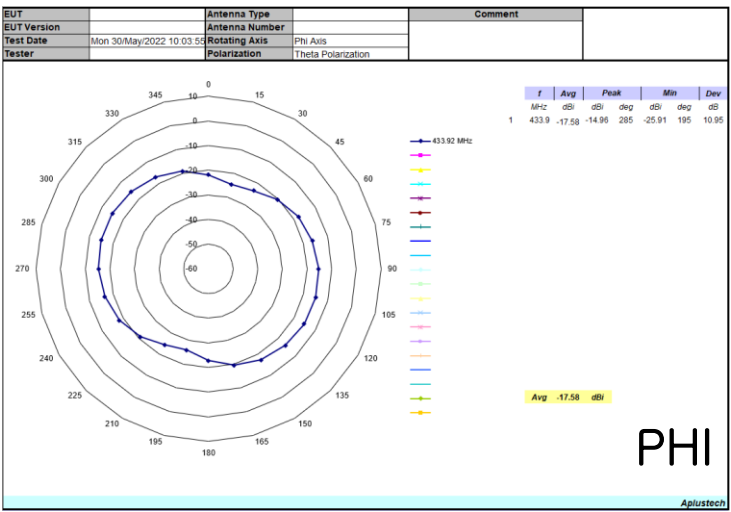
1. VSWR 및 2D-Radiation

2022.05.30  
RadiAnt

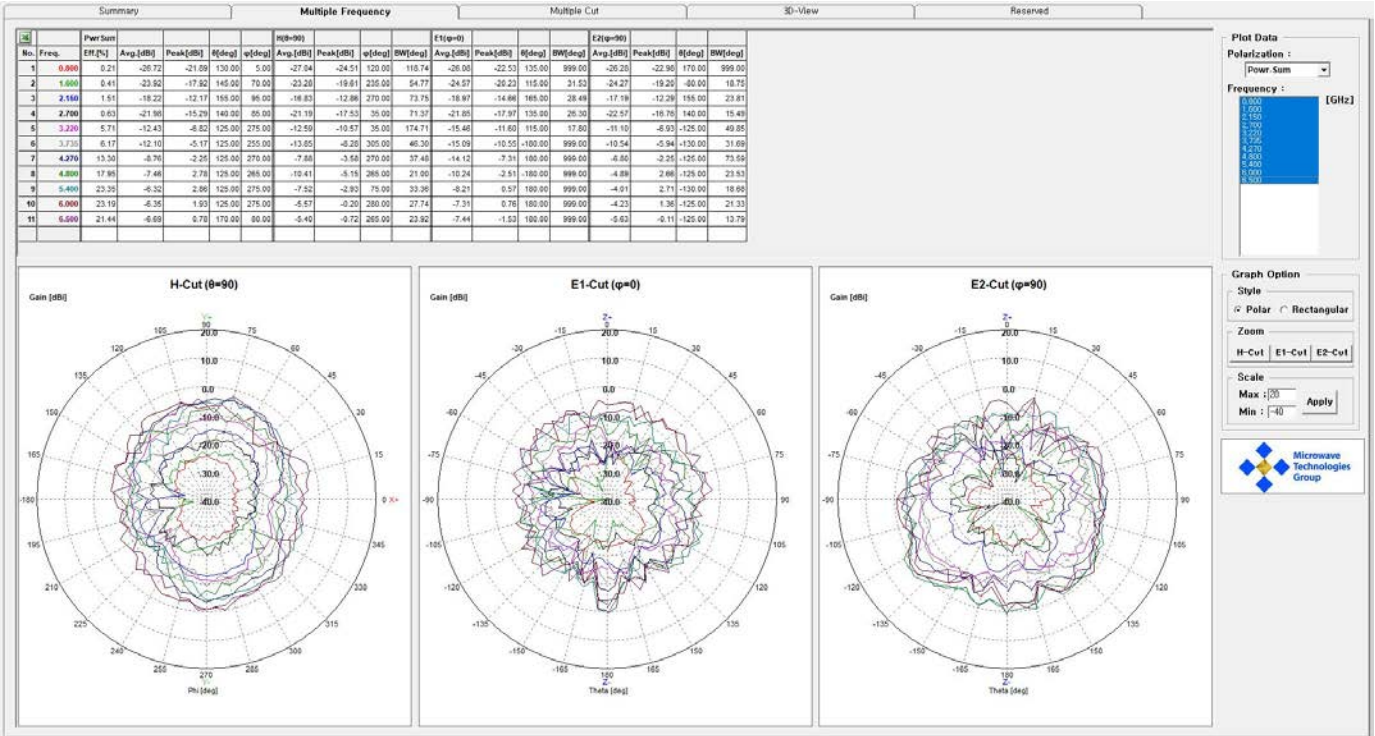
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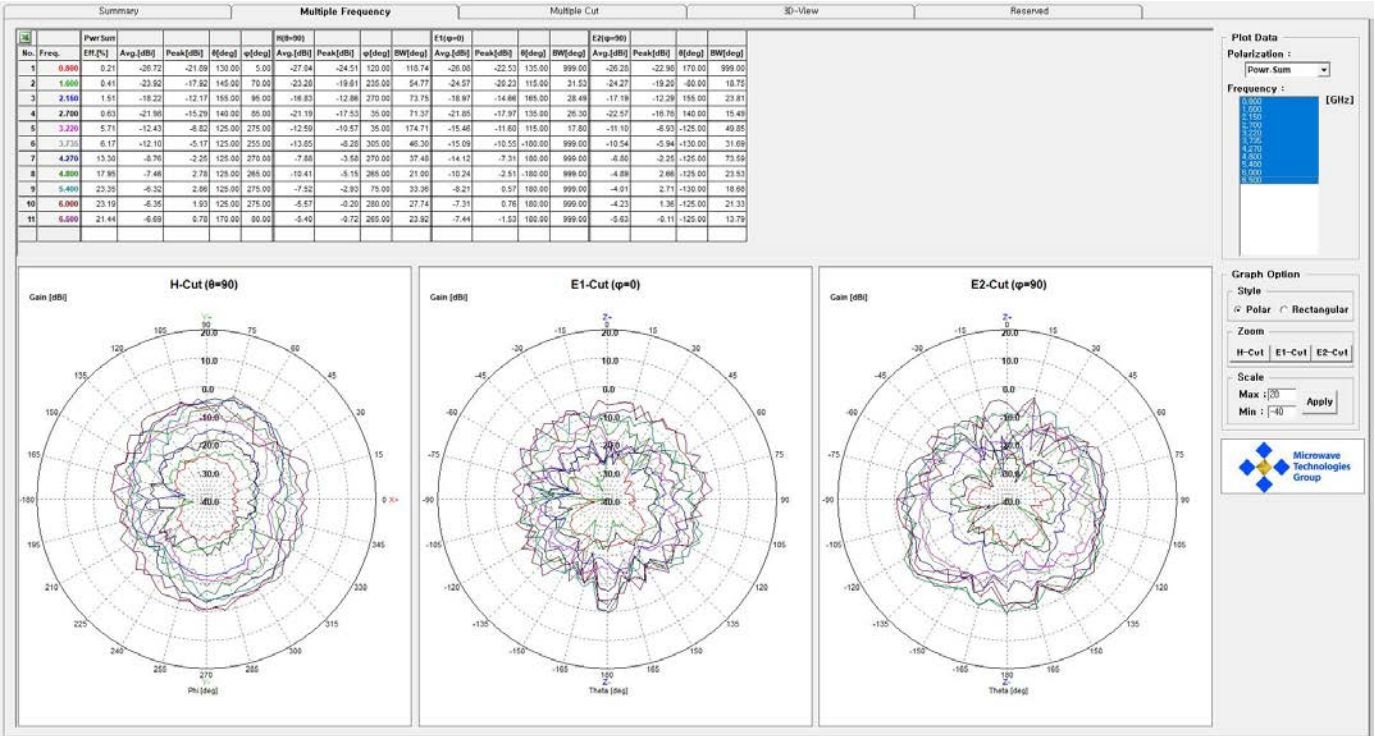
	<b>1</b>
<b>Frequency [MHz]</b>	<b>433.92</b>
<b>Avg.Gain [dBi]</b>	<b>-16.45</b>
<b>Efficiency [%]</b>	<b>2.3</b>
<b>Peak Gain [dBi]</b>	<b>-11.61</b>



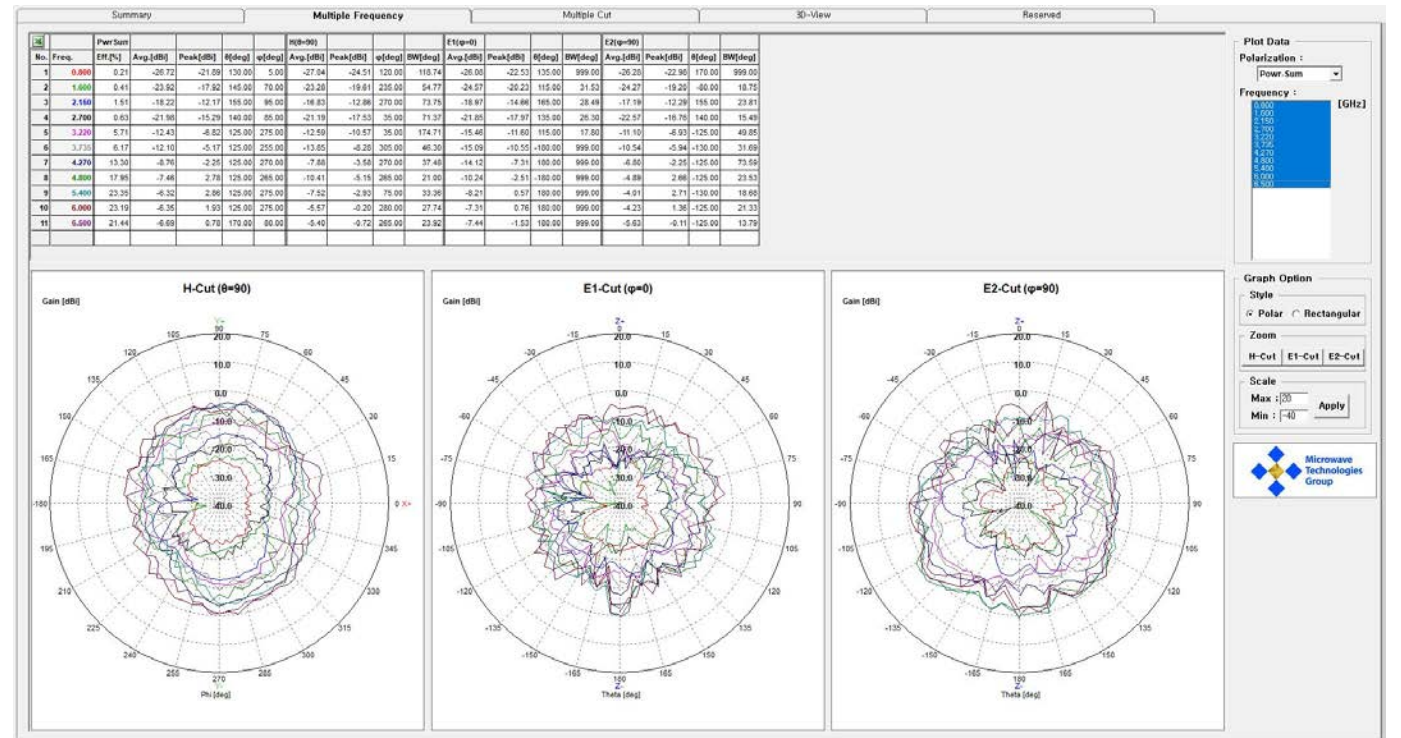
No.	Freq.[GHz]	Eff.[%]	Avg.[dBi]	Peak[dBi]
1	0.8	0.21	-26.72	-21.89
2	1.6	0.41	-23.92	-17.92
3	2.15	1.51	-18.22	-12.17
4	2.7	0.63	-21.98	-15.29



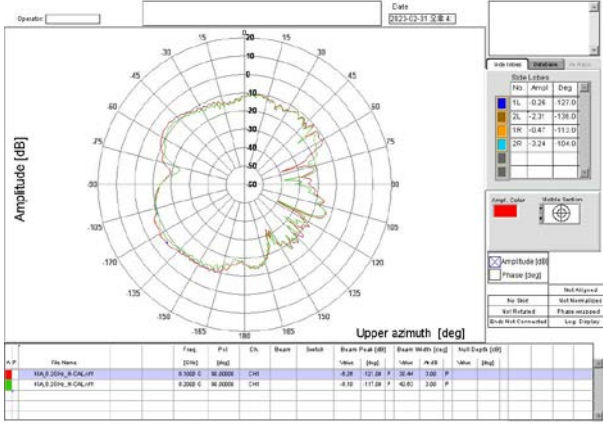
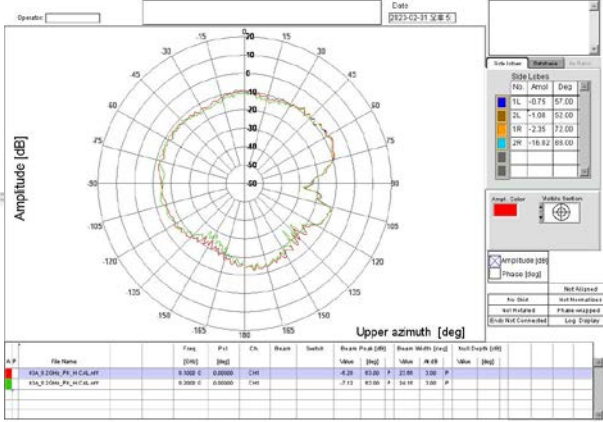
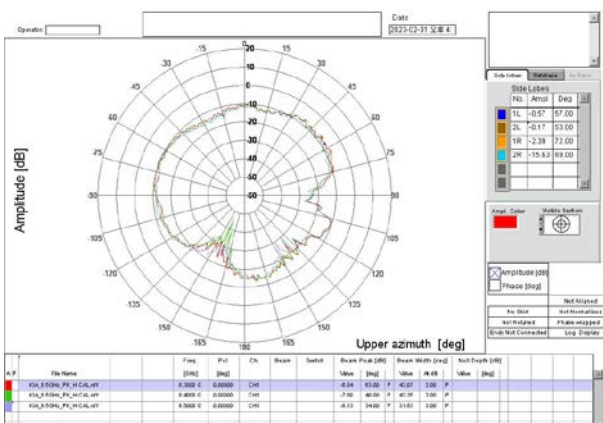
No.	Freq.[GHz]	Eff.[%]	Avg.[dBi]	Peak[dBi]
5	3.22	5.71	-12.43	-6.82
6	3.735	6.17	-12.10	-5.17
7	4.27	13.30	-8.76	-2.25
8	4.8	17.95	-7.46	2.78

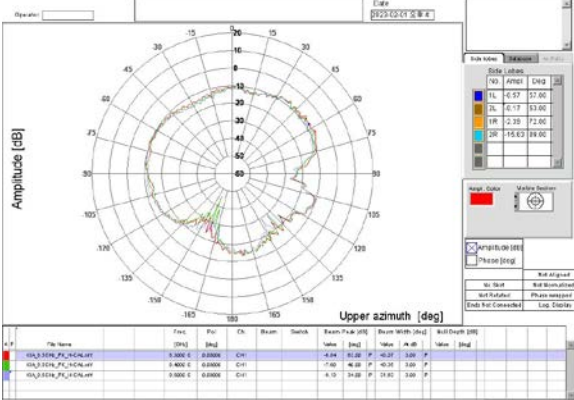
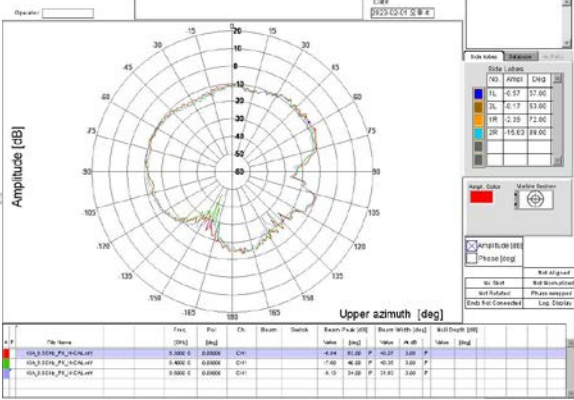
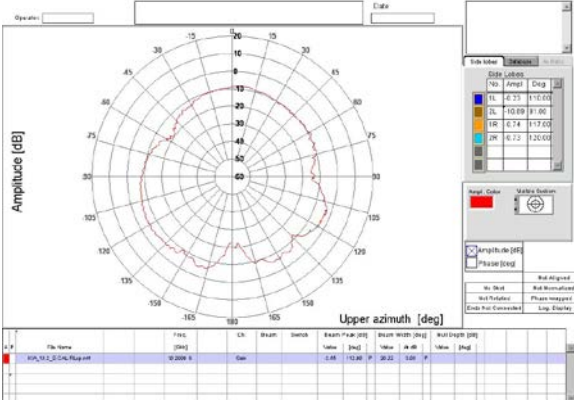


No.	Freq.[GHz]	Eff.[%]	Avg.[dBi]	Peak[dBi]
9	5.4	23.35	-6.32	2.86
10	6.0	23.19	-6.35	1.93
11	6.5	21.44	-6.69	0.78



UWB Antenna Peak Gain

No.	Freq.[GHz]	Peak[dBi]																																															
12	8.1	-6.26	 <p>Operator: [ ] Date: 2023-02-21 15:04:4</p> <p>Amplitude [dB]</p> <p>Upper azimuth [deg]</p> <p>Statistics</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Amplitude [dB]</th> </tr> </thead> <tbody> <tr> <td>1L</td> <td>-0.26</td> </tr> <tr> <td>2L</td> <td>-2.37</td> </tr> <tr> <td>1R</td> <td>-0.47</td> </tr> <tr> <td>2R</td> <td>-2.24</td> </tr> </tbody> </table> <p>Amplitude [dB] <input type="checkbox"/> Phase [deg]</p> <p>File Name</p> <table border="1"> <thead> <tr> <th>File Name</th> <th>Freq</th> <th>Pd</th> <th>Ch</th> <th>Beam</th> <th>Switch</th> <th>Beam Peak [dB]</th> <th>Beam Width [deg]</th> <th>Beam Depth [dB]</th> </tr> </thead> <tbody> <tr> <td>HA_3.000_H_Cal_1st</td> <td>8.100</td> <td>0</td> <td>CH1</td> <td></td> <td></td> <td>-6.26</td> <td>127.00</td> <td>36.44</td> </tr> <tr> <td>HA_3.000_H_Cal_1st</td> <td>8.100</td> <td>0</td> <td>CH1</td> <td></td> <td></td> <td>-6.10</td> <td>117.00</td> <td>40.82</td> </tr> </tbody> </table>	No.	Amplitude [dB]	1L	-0.26	2L	-2.37	1R	-0.47	2R	-2.24	File Name	Freq	Pd	Ch	Beam	Switch	Beam Peak [dB]	Beam Width [deg]	Beam Depth [dB]	HA_3.000_H_Cal_1st	8.100	0	CH1			-6.26	127.00	36.44	HA_3.000_H_Cal_1st	8.100	0	CH1			-6.10	117.00	40.82									
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