Specification For Approval

Type	Helical ANT
Model Name	TSH433-447RP-87mm
Application	SRT-8000T(중계기)
Issued Date	2022. 04. 29

Charge	Inspector	Approval
홍민		대영

SAE HAN ANTENNA CO.,LTD

301-1107,Ssangyong Techno Park 3,36-1 Samjeong-Dong, Ojeong-Gu, Bucheon-Si, Gyeonggi-Do, Korea

TEL : 82.32.624.2630 FAX : 82.32.624.2632

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1. Revision History

Rev No	Date	Contents	Charge	Remarks
0.0	2022. 04.29	New Established	Hwang Dong Min	

2. Specification

2.1. Electrical Specification

Item	Spec	
Center Frequency	433MHz	447MHz
Frequency Range	430MHz – 450MHz	430MHz – 450MHz
V.S.W.R	Less Than 2.0	Less Than 2.0
Average Gain(dBi)	-1.0dBi (Max)	-1.4dBi (Max)
Peak Gain(dBi)	3.16dBi (Max)	2.6dBi (Max)
Radiation pattern	Omni-directional	Omni-directional
Polarization	Linear Vertical	Linear Vertical
Impedance	Nominal 50Ω	Nominal 50Ω

2.2. Mechanical Specification

Item	Spec	Remarks
Dimensions(L)	111mm	(Drawing reference)
Connector	SHAFT	
Color	Black,NI	
Operating Temperature	-45℃ ~ +85℃	
Weight	8g ± 0.3g	

2.3. Major Materials of Parts

Item	Type	Remarks
Element	SWC(cu)	
Sleeve	Keyflex	
Shaft	Brass(NI)	

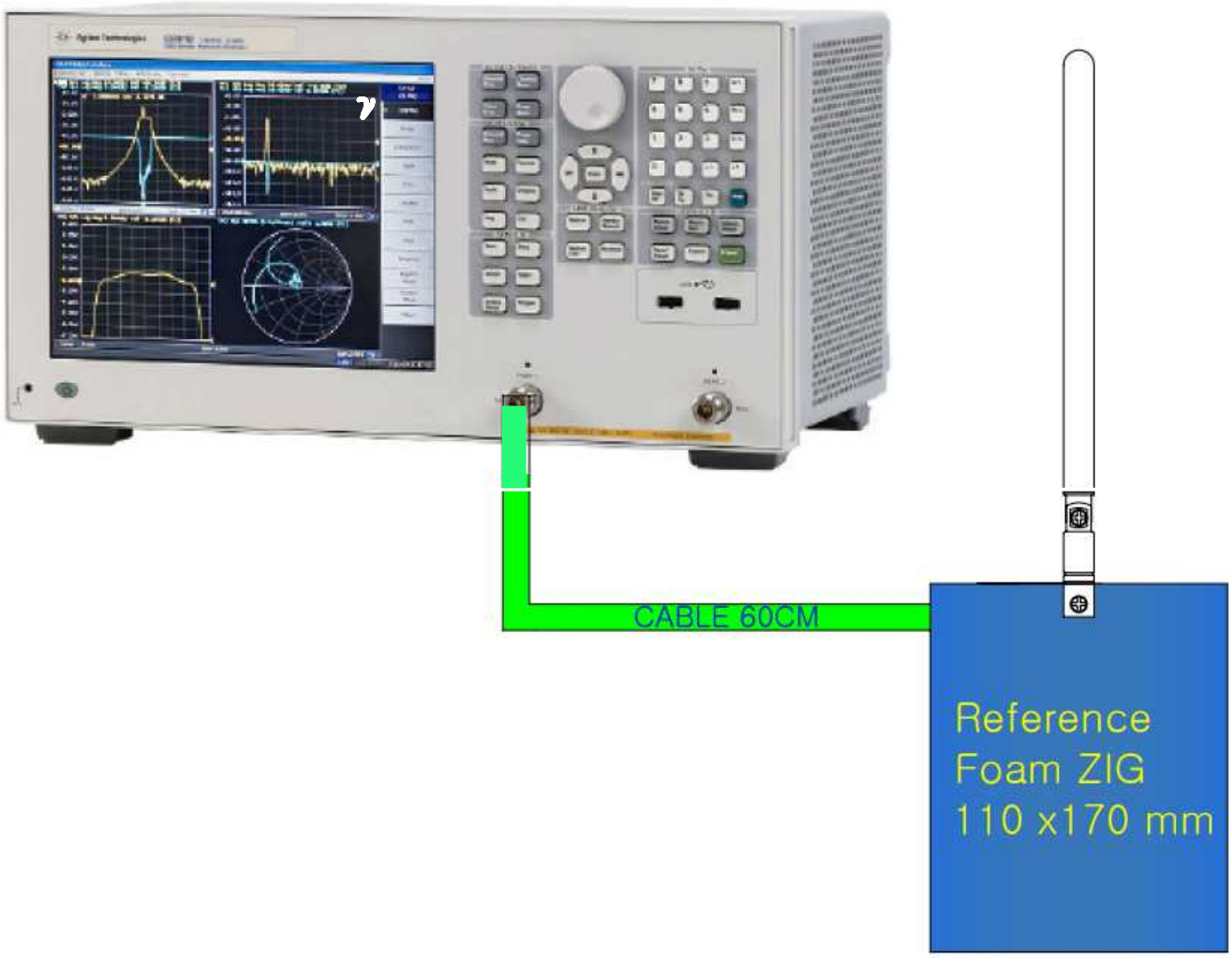
3. V.S.W.R Test

3.1.1 Test method

① Network Analyzer Spec

Equipment	Model	Specification
Network Analyzer	HP8753ES	· Freq. Range : 300KHz ~ 6GHz
Calibration Kit	HP85032B	· DC ~ 6GHz (SMA-Type)

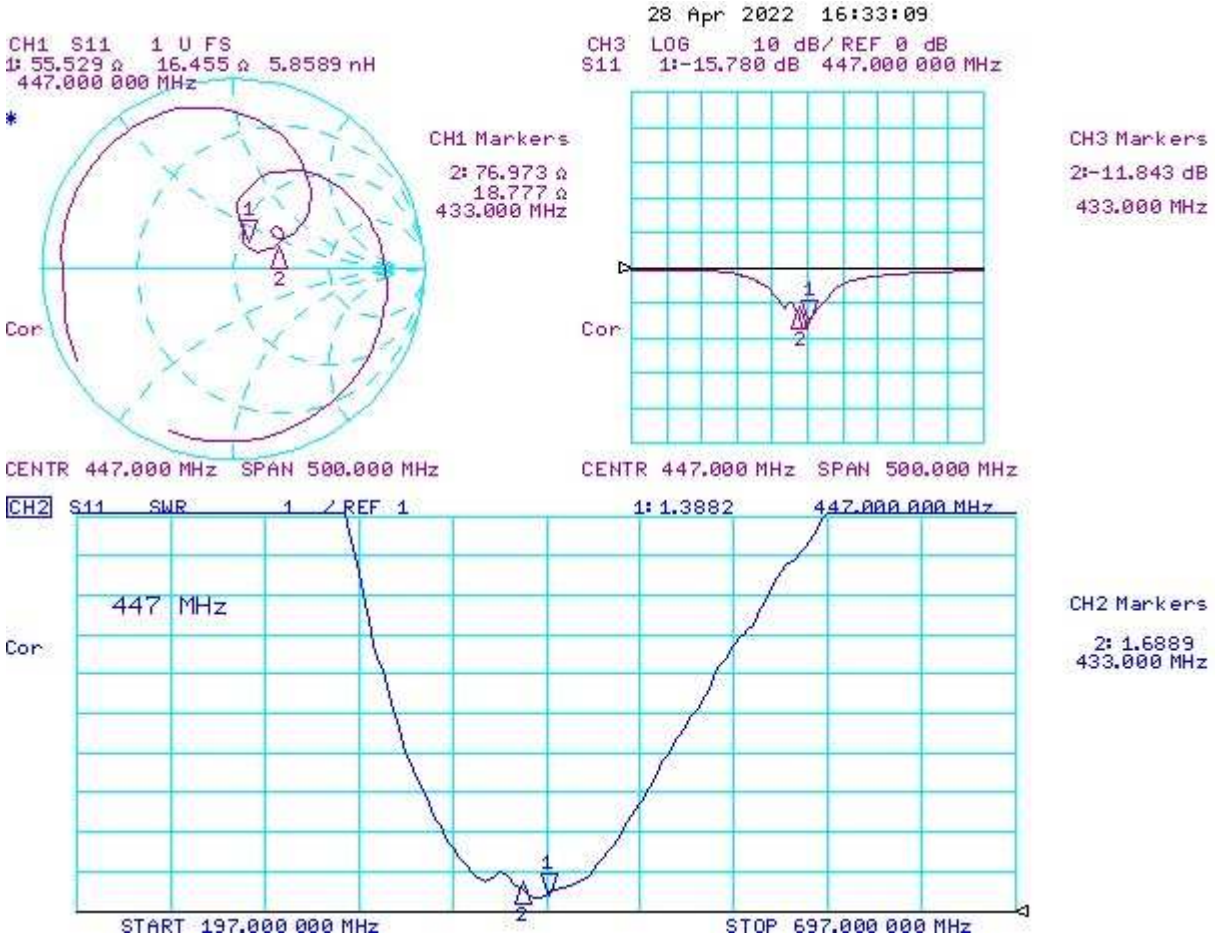
② Network Analyzer test method



3. Electrical Specification

3.1.2 V.S.W.R

DATA

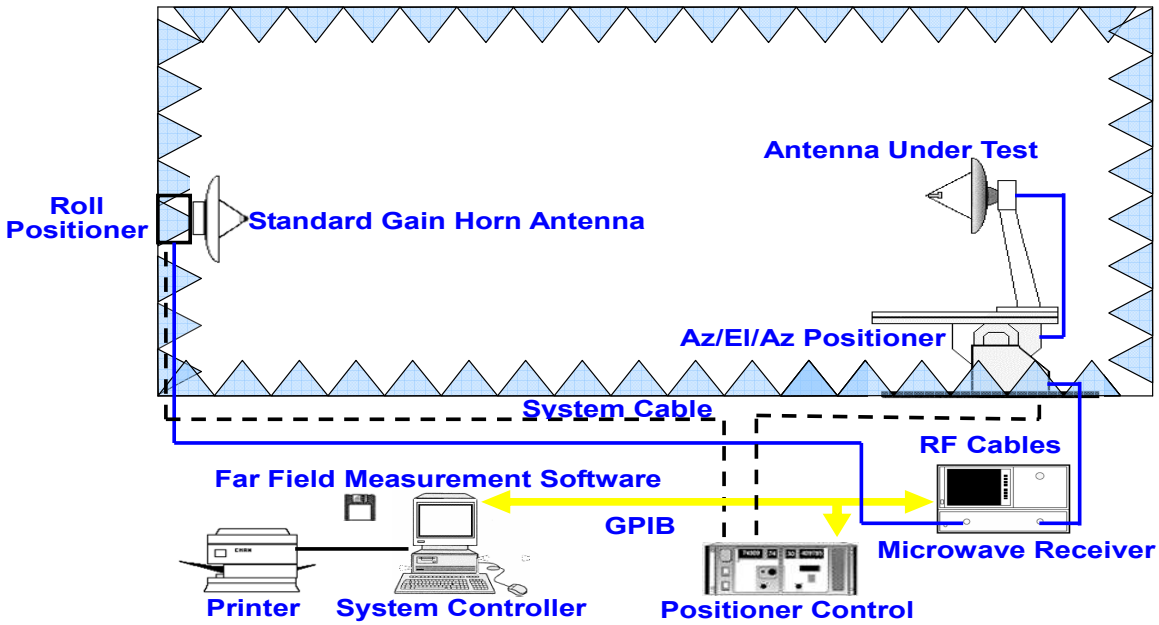


3.2.1 Gain & Beam Pattern Test

① Chamber Spec

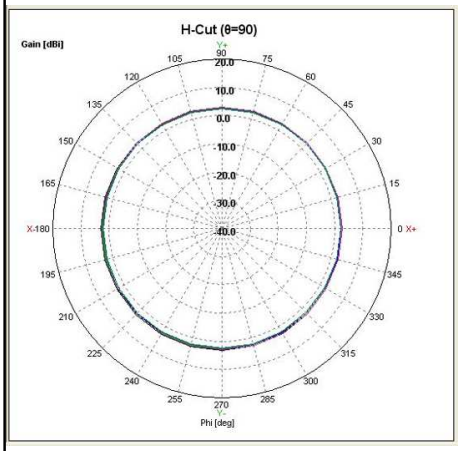
Section	Specification
Chamber Size	6(L)m X 3(W)m X 3(H)m
Frequency Range	400MHz – 6GHz (Far Field)
Quiet Zone	1m X 1 m @ 1GHz
Type	Rectangular
Antenna weight	< 50 kg

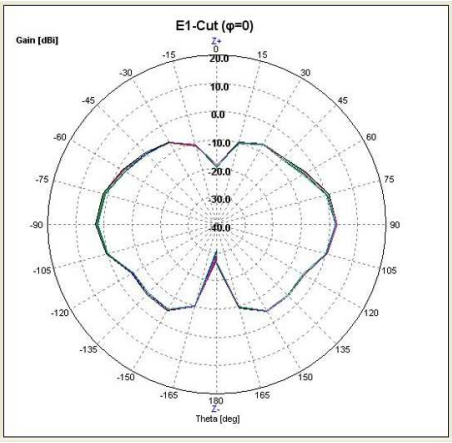
② Chamber Test method

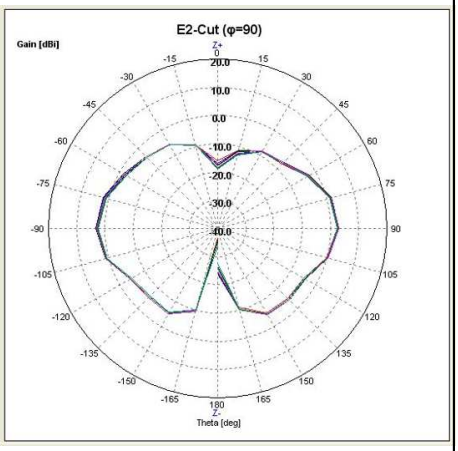


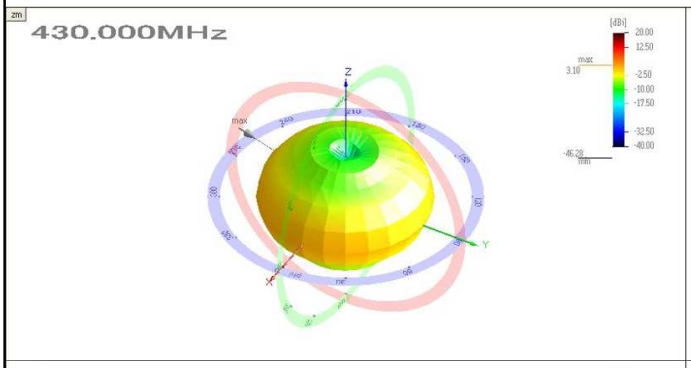
3.2.2 Gain & Beam Pattern

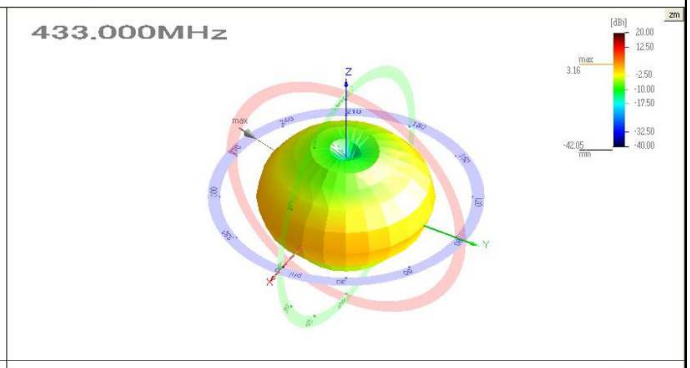
		θ-Pol(H)					H(θ=90)			
No.	Freq.	Eff.[%]	Avg.[dBi]	Peak[dBi]	θ[deg]	φ[deg]	Avg.[dBi]	Peak[dBi]	φ[deg]	BW[deg]
1	430.000	75.76	-1.21	3.10	90.00	255.00	2.65	3.10	255.00	999.00
2	433.000	78.70	-1.04	3.16	90.00	255.00	2.81	3.16	255.00	999.00
3	435.000	80.77	-0.93	3.24	90.00	255.00	2.93	3.24	255.00	999.00
4	437.000	81.31	-0.90	3.26	90.00	255.00	2.96	3.26	255.00	999.00
5	440.000	78.46	-1.05	3.06	90.00	255.00	2.82	3.06	255.00	999.00
6	442.000	75.14	-1.24	2.86	90.00	255.00	2.64	2.86	255.00	999.00
7	445.000	72.79	-1.38	2.71	90.00	255.00	2.51	2.71	255.00	999.00
8	447.000	72.27	-1.41	2.67	90.00	255.00	2.49	2.67	255.00	999.00
9	450.000	69.14	-1.60	2.48	90.00	90.00	2.30	2.48	90.00	999.00

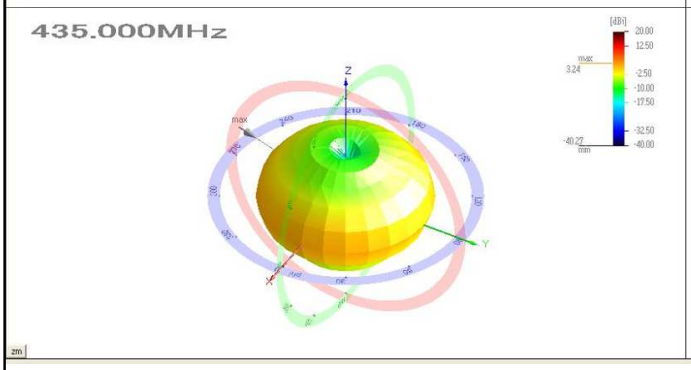


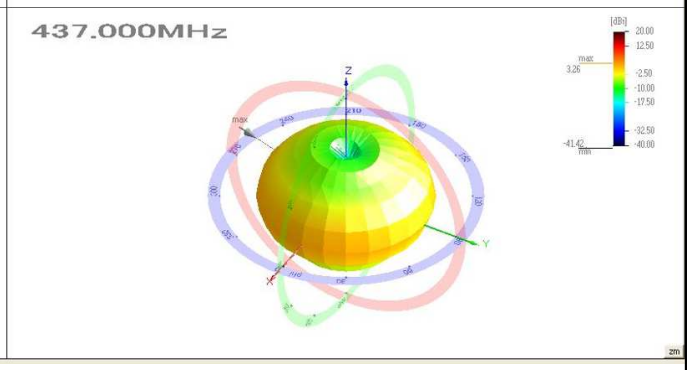












4. Drawing

CONTROLLED DRAWING

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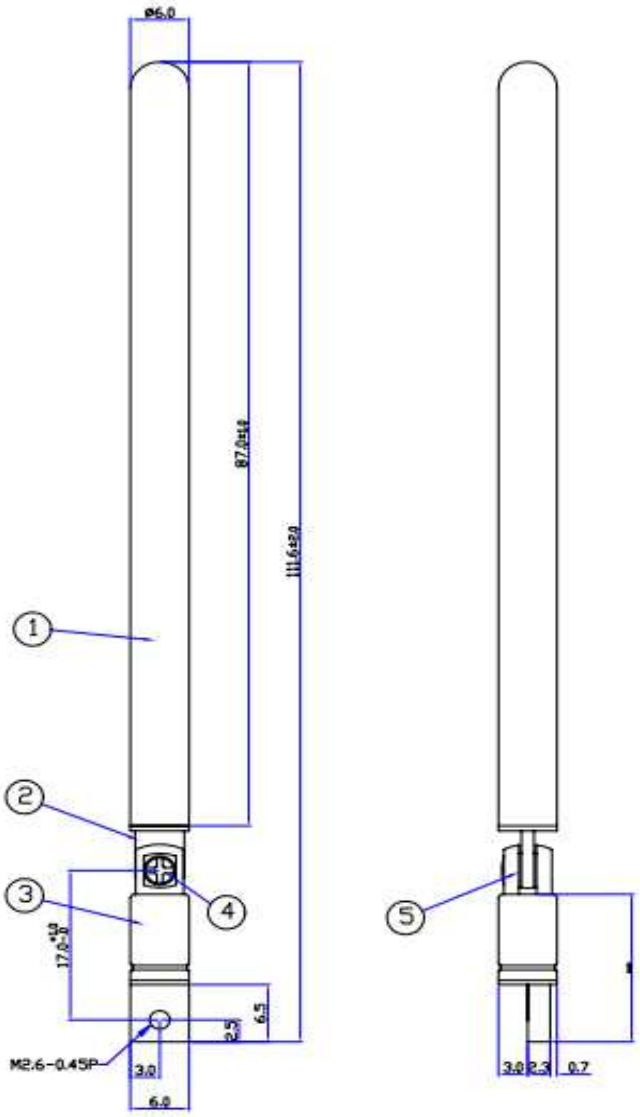
NO	DESCRIPTION	MATERIAL	SIZE	PART NO	Q'TY
1	SLEEVE	KEYFLEX / BLACK	ø6.0x87.0mm		1
2	SHAFT LOD	BRASS / Ni	ø6.0x20.0mm		1
3	SHAFT BASE	BRASS / Ni	ø6.0x22.5mm		1
4	SCREW	SWC/ Ni	M2.6-4.5mm		1
5	WASHER	PHOSPHOR BRONZE	ø4.0X0.2T		2



UNLESS OTHERWISE SPECIFIED TOLERANCES	
0 ~ 4	± 0.1
4 ~16	±0.15
16 ~63	± 0.2
63 ~ 250	± 0.3
250 ~	± 0.5

NO	DATE	DESCRIPTION OF REVISION	SIGN
6			
5			
4			
3			
2			
1			

SAEHAN ANTENNA			NAME OF TITLE HELICAL ANTENNA	
SCALE	UNITS	DATE	MODEL No.	
1/1	mm	2022.04.26.	TSH433-447RP-87mm	
DRAWN/DESIGNED	CHECKED	APPROVED	DRAWING/PART No.	
HWANG	.D.M		APPROVED No.	
			USE FREQUENCY (MHz)	433/447MHz