

☒ New Rules Updated



Technical Specifications

Product Name: Built-in antenna

Model: Built-in day \WA-F-LB-03-195\450mm\ gray \ROH

Item No.: 1417225

Preparation	Audit	Ratification	Date
Wang Haitao	Chen Hao	Zheng Yanjie	2025.03.31

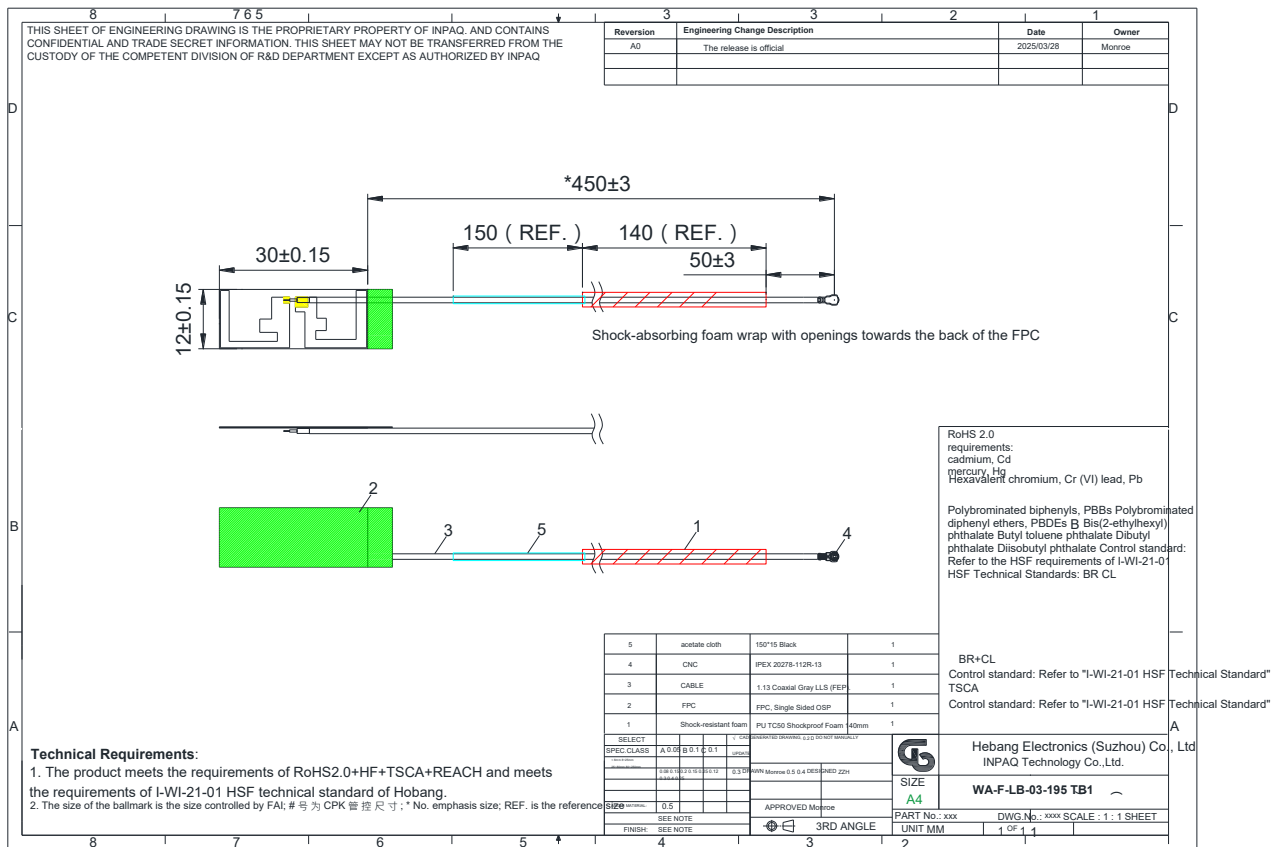
Hisense Video Technology Co., Ltd

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2. Drawings



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3.Physical drawing



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4.BOM

serial number	project	specification	Dosage
1	Foam	Shock-absorbing foam black 140*15mm	1
2	FPC	FPC T0.12 Single-sided black OSP Adhesive backing 3M467	1
3	Cable	1.13LLSGray (FEP)	1
4	Joint	IPEX1 20278-112R-13	1
5	Protective sleeve	PE transparent	1
6	Acetate cloth	150*15 Black	1

5.Requirements for performance index parameters

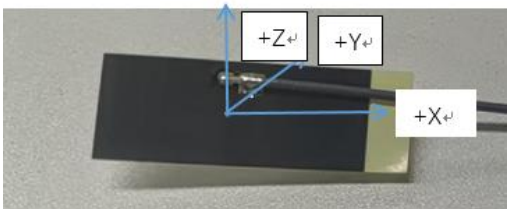
5.1 Key Performance Indicator Requirements

serial number	Item	Specifications Requirement	remark
1	Band range	2.4GHz-2.5GHz · 5.15-5.85GHz · 5.925-7.125GHz	
2	directionality	Omnidirectional antennas	
3	Before-to-back ratio	\	
4	Roundness	\	
5	Enter impedance	50 Ohm	
6	Return loss	-7dB	Max
7	VSWR	2.5	Max
8	Polarization method	Linear polarization	
9	gain	2.5±1dBi	Horizontal plane gain with cable test
10	Antenna efficiency	30±5%	\
11	Input power	1W	Max

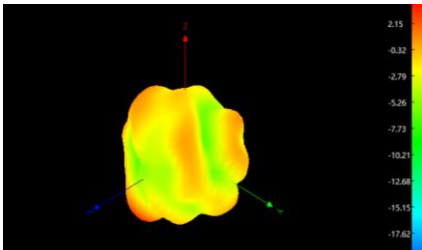
5.2 Efficiency&Peak Gain

Frequency (MHz)	Efficiency (dBi)	Efficiency (%)	Peak Gain (dBi)
2400	-4.87	32.58	2.80
2450	-4.64	34.36	2.94
2500	-4.75	33.47	2.69
avg	-4.75	33.47	2.81
5150	-5.27	29.75	2.71
5200	-5.16	30.47	2.78
5250	-5.03	31.42	2.97
5300	-5.31	29.44	3.11
5350	-5.73	26.74	3.21
5400	-5.36	29.14	2.80
5450	-5.42	28.69	2.94
5500	-5.32	29.39	3.05
5550	-5.07	31.11	3.08
5600	-5.12	30.78	3.00
5650	-5.06	31.20	2.88
5700	-5.46	28.47	2.73
5750	-5.27	29.69	2.52
5800	-5.41	28.77	2.64
5850	-5.27	29.74	3.56
avg	-5.28	29.65	2.93
5925	-5.46	28.47	2.65
6025	-5.31	29.44	2.54
6125	-5.62	27.39	2.70
6225	-5.73	26.74	2.55
6325	-5.54	27.95	2.41
6425	-5.43	28.61	2.62
6525	-5.80	26.32	2.73
6625	-5.55	27.86	2.90
6725	-5.39	28.93	2.86
6825	-5.32	29.41	2.99
6925	-5.66	27.18	2.76
7025	-5.80	26.33	2.52
7125	-5.66	27.19	2.74
avg	-5.56	27.83	2.69

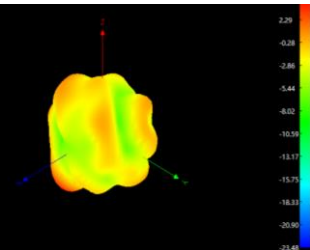
5.3 3D Radiation Pattern



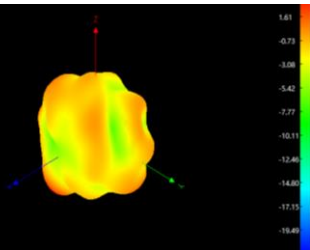
2400MHz



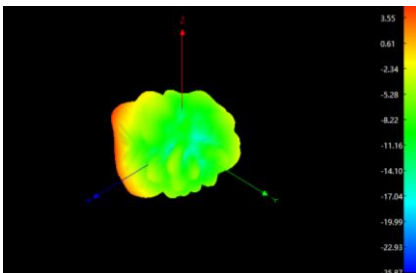
2450MHz



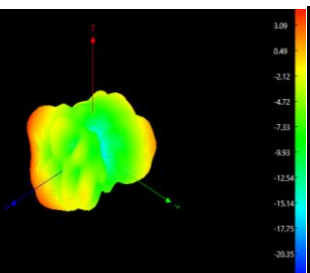
2500MHz



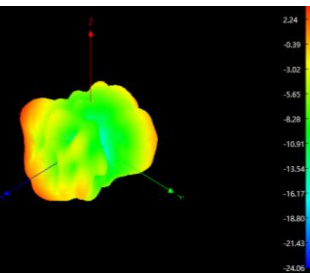
5150MHz



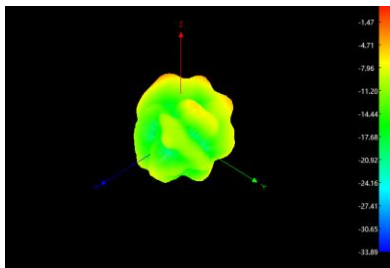
5350MHz



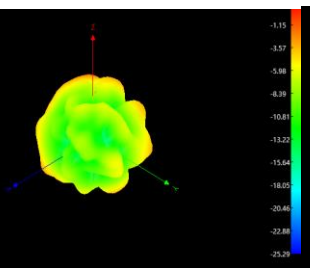
5850MHz



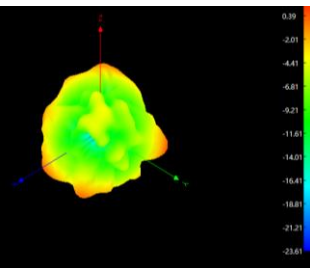
5925MHz



6525MHz



7125MHz



5.4 Environmental and reliability index requirements

serial number	Item	Requirements	remark
1	Operating temperature	temperature requirements \	
2	Operating Humidity	Humidity Requirements \	
3	Storage temperature	temperature requirements \	
4	Storage humidity	humidity requirements \	
5	Tensile test	More than 12N	
6	Plugging and unplugging	plugging requirements \	
7	Salt spray test	There is no abnormality and rust in appearance	Salt water concentration: 5%; Test temperature: 35°C; Test time:24 hours
8	High temperature	temperature resistance \	
9	Resistant to low temperatures	\	
10	Temperature cycling	-40 degrees ~ 80 degrees, one cycle every two hours, 10 cycles	
11	Alternating damp heat	\	
12	Environmental requirements	Meet the EU ROHS and REACH directives, meet the Chinese ROHS directives, and meet the lead-free requirements of plating	

6.Reliability test

Project: High and low temperature test	High and low temperature test criteria The test conditions taken out for inspection, appearance inspection, mechanical performance inspection and electrical performance index test. Number of Samples: 5PCS The test sample must not have significant degradation of the material, including but not limited to	
Cryogenic storage experiments	For the following problems, such as fading, peeling, bubbling, peeling of spray paint, obvious changes in the softness and hardness of the material, etc. The temperature in the test $\pm 2^{\circ}\text{C}$ [25°C,1H]-- Cooling [1°C/min]--[-40°C,72H]. -- Heating [1°C/mic]--[25°C,1H]; High and low temperature test chamber The product is taken	
	out for inspection, appearance inspection, mechanical performance inspection and electrical performance index test. Number of Samples: 5PCS The test sample must not have significant degradation of the material, including but not limited to [85 °C 72H].	
	For the following problems, such as fading, peeling, bubbling, painting peeling, high temperature storage test Obvious changes in the softness and hardness of the material, etc. The temperature in the test $\pm 2^{\circ}\text{C}$ [25 °C, 1H] -- Heating [1°C/min] - - [70 °C, 72H] -- Cooling [1°C/mic] -- [25 °C, 1H] ;	
Constant damp heat test	High and low temperature test chamber For the following problems, such as fading, peeling, bubbling, peeling off of spray paint, sample quantity 5PCS Obvious changes in the softness and hardness of the material, etc. T=65°C, RH=95±2%, and the test time was 48h. After 48 hours of experiment, it was recovered at room temperature for 2h, and the product was taken out for inspection, and the samples were inspected for visual inspection, mechanical property inspection and electrical performance index testing. Temperature punch test chamber The test sample must not have obvious degradation of the material, including but not	
Temperature shock test	limited to the following problems, such as fading, peeling, bubbling, peeling off of spray paint, SAMPLE QUANTITY: 5PCS [-40°C0.5H] → within 20s → [85°C0.5H], this is one cycles, a total of 10cycles Salt Spray Test Chamber The test sample must not have obvious	
Salt spray test	degradation of the material, including but not limited to the following problems, such as fading, peeling, bubbling, peeling off of spray paint, no rust on the surface, discoloration, obvious changes in the softness and hardness of the material, etc.	

		SAMPLE QUANTITY: 5PCS The antenna was placed in a salt spray testing machine, and the pH value was in the range of 6.5-7.2 in a closed environment at (35±2)°C , and the Nacl solution was used for 5%±1% for 48h After saline spraying, rinse the sample with clean water. After placing it in a room temperature environment for 2 hours, check the appearance of metal plating parts such as antenna shrapnel. 1) Please clean the test sample with acetone before the test, and it is strictly forbidden to touch the metal part or gold finger with bare hands. 2) If it is an exposed part, the antenna needs to be done for 48h; If it is a stainless steel antenna, it only needs to be done for 24h.	
Tensile test	Test fixtures SAMPLE QUANTITY: 5PCS The clamp is fixed at the root of the antenna, and one end pulls the cable, pulling force 25N> Φ 1.13>9.8N, the cable does not break	The test sample cable does not crack or break	

7.Environmental protection requirements

The company promises that the components used in the template meet Hisense's "Q/RSAG J15.002 chemical substance restriction requirements".

8.Packing specifications

8.1 Packing materials

No.	The name of the item	Material specifications	Quantity (units).
1	bag	BAG,180*120*0.04mm	10
2	Inner box	XXX	200(PCS)
3	Packing outer carton, 400*300*230mm	Packing outer carton, 400*300*230mm	800 (PCS)

8.2 Packaging Requirements

2) The product is packed in PE bags, each bag puts 10PCS products, 200PCS in (Built-in antenna 800PCS/ outer carton WA-F-LB-03-195 450mm gray ROH) Note: Paste the product label on the outer packaging to provide a production batch information label that can be traced.

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8.3 Packaging diagram

Packing quantity, outer carton		Specification (mm).		Materials used in packaging	remark
1. The number of outer boxes	1. The number of inner boxes	Outer carton	Inner carton	PE bag, divider	
800PCS	200PCS	400*300*230mm	XXX		

As
shown
in Fig



Packing
instructions

- (1) Put each antenna and wire slightly bent into the PE bag, and press out the air in the PE bag and close the seal after loading. Each PE bag puts 10pcs antenna.
- (2) Put 20 bags of antennas into a package inner box, a total of $10 \times 20 = 200$ pcs, put the filler and wrap it;
- (3) Put 4 inner boxes into the outer box, a total of $200 \times 4 = 800$ pcs.

9. Transportation and warehousing environment requirements

9.1 Carriage Requirements

9.1.1 The product shall be well packaged during transport to ensure that the product will not be damaged by the environment or undue stress.

9.1.2 Avoid violent impact or impact during transportation. It should be waterproof and moisture-proof during transportation.

9.1.3 The temperature and humidity of the transportation environment shall meet the requirements of storage conditions.

9.2 Storage Requirements

9.2.1 Must be stored in a clean, ventilated warehouse free of corrosive gases.

9.2.2 The temperature of the storage warehouse is + 11°C~29 °C, and the relative humidity is not more than 65%RH.

9.2.3 Valid for 2 years