

KunShan Innowave Communication Technology CO.,Ltd.

【Material acknowledgement】

CUSTOMER NAME: Shenzhen MTN Electronics Co., LTD

PRODUCT NAME: KE97 (F065E9713910003)

CUSTOMER: 12. N3. 5000PE1DB

Customer material name: MTO-WR1232AC

PRODUCT: Version number :V1.0; MTO-WR1232AC 5G antenna 1, 64.5 *10*0.6mm resonant frequency 5100~5800Mhz, standing wave ratio less than 2, return loss less than -10, efficiency $\geq 60\%$, gain 4dB, substrate FR4, copp-coated, black ink surface, back with 3M300LSE L=150 $\pm$ 5mm Color: Black IPEX, silk screen: NDX MD13 5G-1 V0.1 meets ROHS2.0 Innowave

Factory signature:

APPROVED BY	AUDITOR BY	CHECKED BY
Huang Chao	Lin Quan Jun	Huang Lei

Customer acknowledges signature:

Acknowledge the result: ☐ OK ☐ NG

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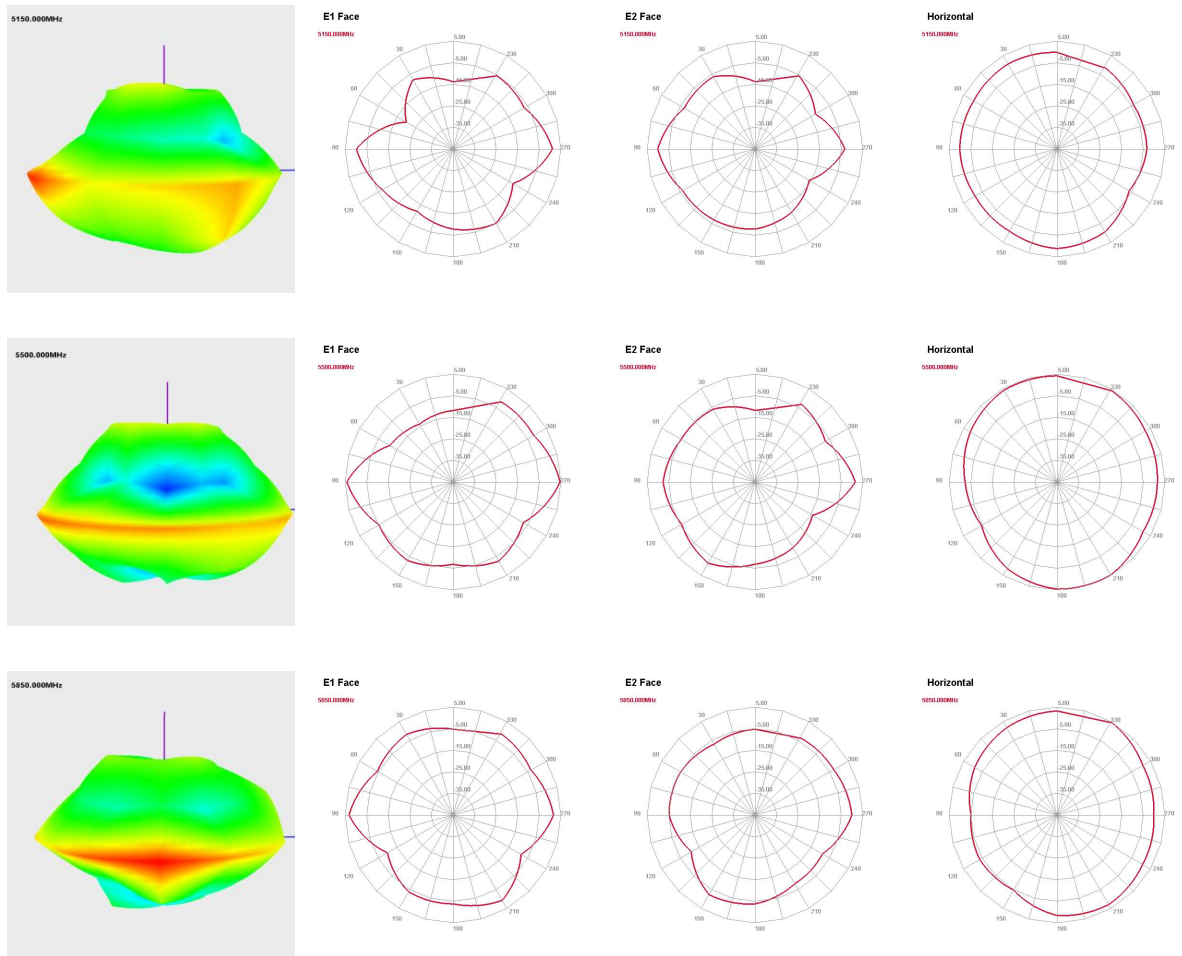
(1) Antenna description

Product main technical parameters

Main technical specificationf

Main technical parameters		Main technical specifications	
Frequency Range (MHz)	5150-5850	Frequency Range (MHz)	5150-5850
Impedance (Ω)	50	Impedance (Ω)	50
Peak Gain(dBi)	2.0	Peak Gain(dBi)	2.0
VSWR	≦2.0	VSWR	≦2.0
Polarization	vertical polarization	Polarization	vertical polarization
Radiation	Omni-directional	Radiation	Omni-directional
Connector Type	MHF Plug	Connector Type	MHF Plug
Physical Properties		Physical Properties	
Antenna Base	FR-4	Antenna Base	FR-4
Operating Temp	-40℃~+70℃	Operating Temp	-40℃~+70℃
Storage Temp	-40℃~+70℃	Storage Temp	-40℃~+70℃

3.2: Darkroom 2D, 3DRaditation Pattern



3.3: Gain, efficiency meter

Frequency(GHz)	Efficiency (%)	Gain(dBi)
5150	65.44	2.36
5500	68.8	2.18
5850	69.53	2.21

4、 Bill of materials

			KunShan Innwave Communication Technology CO.,Ltd.													
BOM																
Client:		MTN	Type of aircraft:	MT0-WR1232AC	□		E-BOM									
Project number:		KE97	Edition:	V1	□		P-BOM		2024/5/10	V1	6	2.4G antenna added double-sided tape, 2.4G antenna PCB surface treatment changed; The		Li Ji Sheng		
				BOM				2024/3/15				Initial release		Li Ji Sheng		
								Change date		Markers		Places		signature		
Term		Change mark	New part number		Product name		Gauge lattice		Material (Surface treatment)		Colour		QTY	Customer part number	supplier	Reserve injection
1			F065E9713910003		KE97- Built-in 5G-1 antenna assembly		The MT0-WR1232AC 5G-1 antenna has a black cable length of 150mm		Halogen PCB+ coaxial line + double-sided tape		Black		1 PCS		Innwave	self-control
2			M065E9736910003		KE97- Built-in 5G-1 antenna PCB		64.5*10*0.6mm		Halogen 0.6MM FR4 single panel, single side black oil OSP process		Black		1 PCS			Outsourcing
2			S065E9702910003		KE97- Built-in 5G-1 RF cable		Φ 1.37*150mm ordinary wire +1 generation domestic terminals		Halogen-free copper wire, one end skinned with tin, one end hit the terminal		Black		1 PCS		Innwave	self-control
		3	T01101116		1.37 Common coaxial line		Φ 1.37 common coaxial line		Copper wire, both ends peeled with tin (line loss 0.5-1.0dB impedance 50 ohm)		Black		0.150/M			Common materials/outsourced
		3	T0360010		Domestic 1 generation terminal		First generation terminal		Halogen-free 1.37 wire		Yellow		1 PCS			Common materials/outsourced
		3	B15A0003		Lead-free environmental protection high temperature tin bar		Lead-free environmental protection high temperature tin strip weight 1KG		Halogen-free tin content 99.3%		Silver		0.01g/pcs			Common materials/outsourced
2			M065E9719990001		KE97- Built-in 5G double-sided tape		63.9*9.4*0.15mm		Halogen-free 3M0468A T0.15mm double-sided tape		Natural quality		1 pcs			Outsourcing
2			B15A0002		Lead-free green tin wire 0.8mm diameter		Φ 0.8mm		Halogen-free rosin content 2.5-3.0% Weight 1KG		Silver		0.046g/pcs			Outsourcing
2		V1	B000BZD00021000		Zip-lock bag 002		300*200mm		The single layer thickness of halogen-free transparent anti-static self-sealing port is 0.05mm		Transparent		1/50PCS			Outsourcing
2			B01A0026		Carton 350*350*250mm		Carton 350*350*250mm		Halogen-free carton 350*350*250mm		Natural quality		1/2000PCS			Outsourcing

5 Equipment list

Device name	Calibration date	Equipment life	Test engineer
Network analyzer	2024-05-23	2025-05-12	Li Daung Jun
ETS	2024-05-23	2025-05-23	Li Daung Jun