9F, No.111-6, Shing-De Rd., San-Chung District, New Taipei City 241458, Taiwan, R.O.C.

Winmate Inc.

AntennaSpecification

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9F, No.111-6, Shing-De Rd., San-Chung District, New Taipei City 241458, Taiwan, R.O.C.

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1. Antenna Placement

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2. WiFi Main Antenna Specification

Winmate Part Number: 90RF0900001X

2.1. Electrical Characteristics

Frequency(MHz): 2400-2500 / 5150-7150
SWR: ≦1.62@2400-2500MHz
≦2.18@5150-7150MHz
Return Loss: ≦-26.7dB@2400-2500MHz
≦-16.6dB@5150-7150MHz
Peak Gain: 2.29dBi@2400-2500MHz
3.38dBi@5150-7150MHz
Impedance: 50ohm
Polarization: Linear

2.2. Mechanical Characteristics

Cable: 50Ω φ0.81 RF cable
Connector: MHF4
PCB: FPCB /Thickness 0.2mm
Type:PIFA

2.3. Environmental Characteristics

Operating Temperature: -30℃ to 80℃

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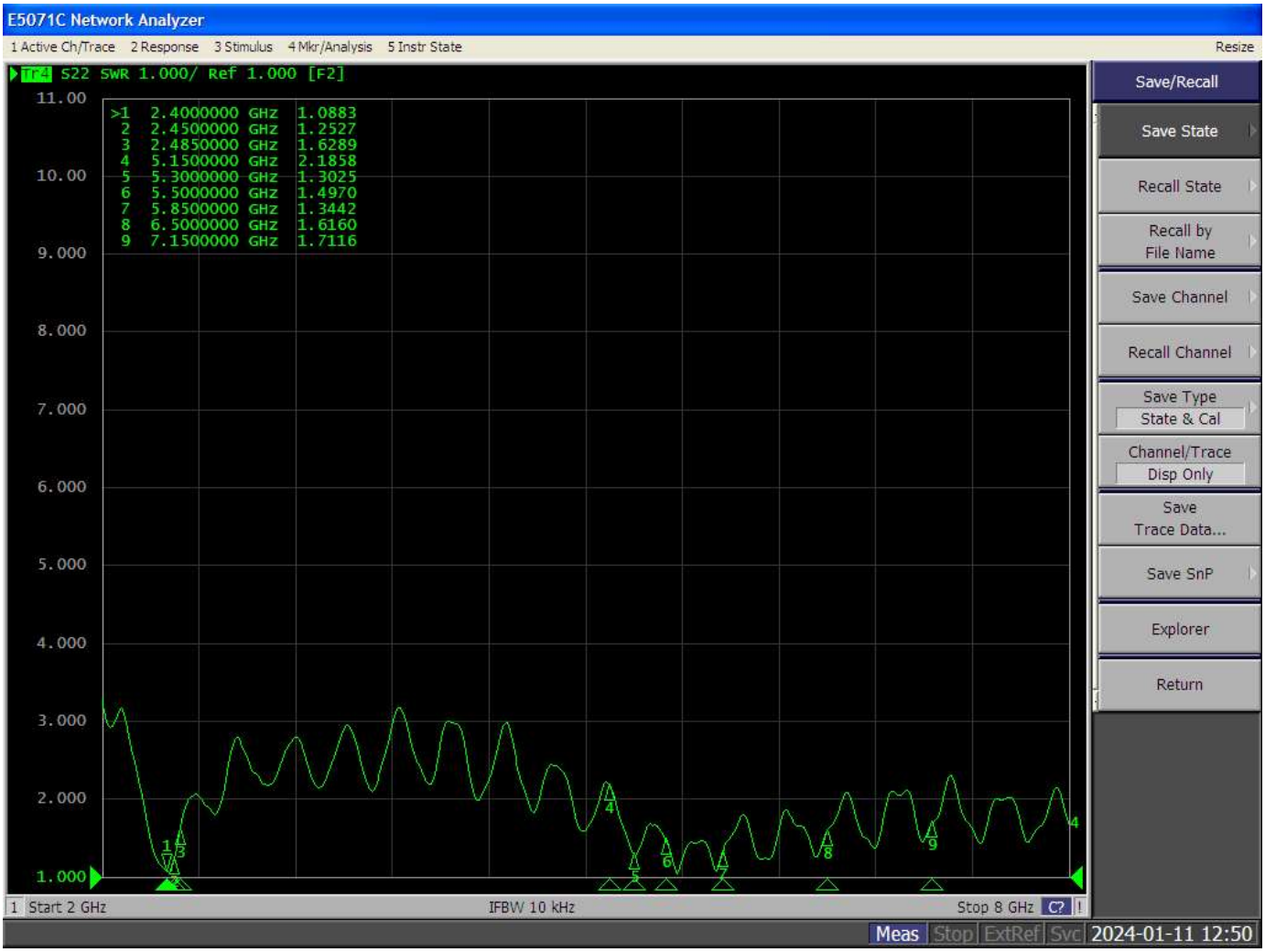
2.4. RF Performance Characteristics

2.4.1. SWR



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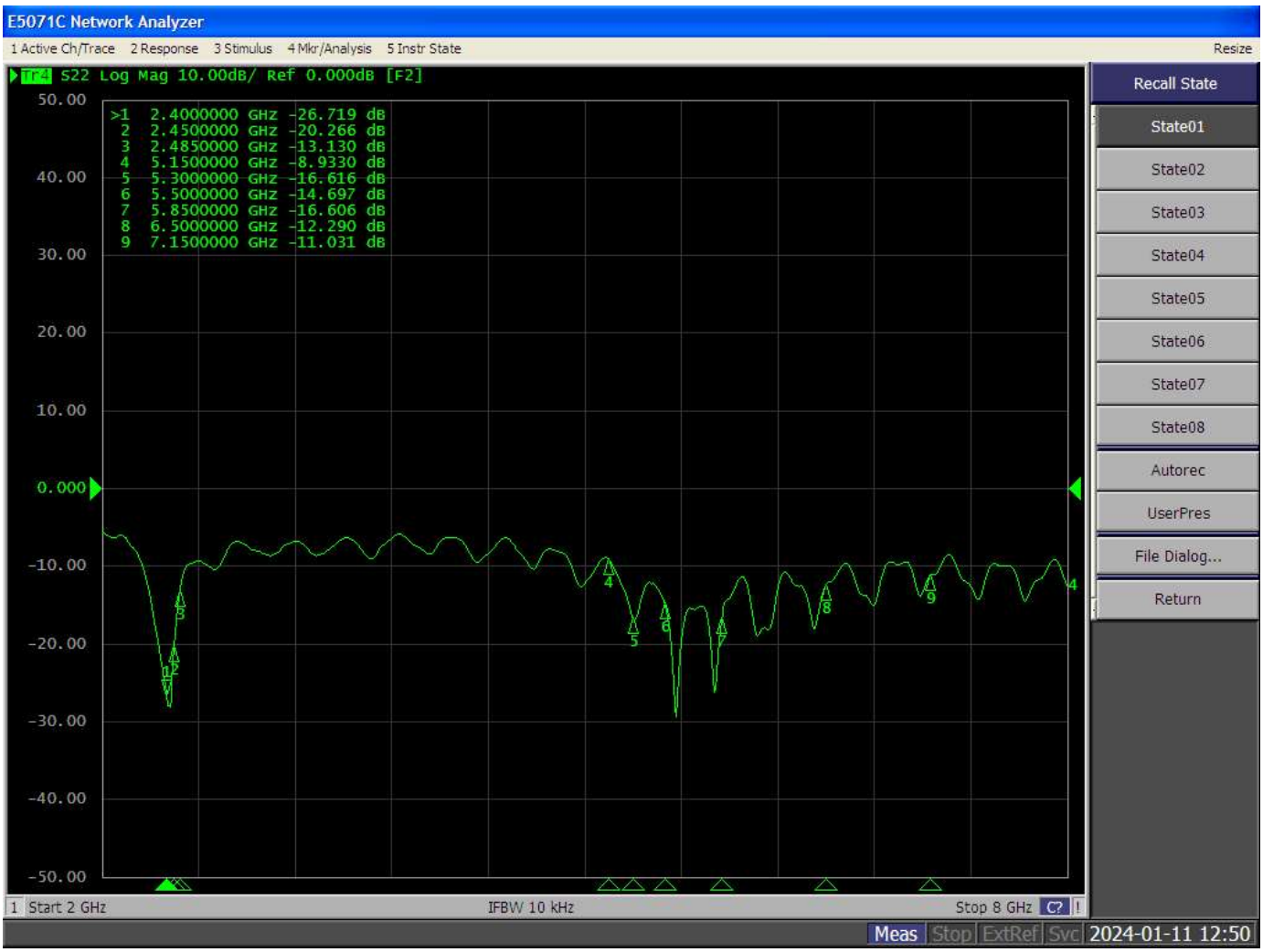
2.4.2. Return Loss



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2.4.3. Gain / Efficiency

Frequency	2400	2450	2483.5	2500	5150	5250	5350	5470	5600	5725
Directivity (dBi)	5.11	5.11	5.30	5.47	6.08	6.24	6.12	6.13	5.70	6.06
Efficiency (dB)	-2.82	-3.12	-3.18	-3.23	-4.15	-3.57	-3.33	-3.30	-3.05	-3.34
Efficiency (%)	52.27	48.75	48.10	47.50	38.47	43.96	46.40	46.78	49.60	46.39
Peak Gain (dBi)	2.29	1.99	2.13	2.24	1.94	2.67	2.79	2.83	2.65	2.72

Frequency	5785	5850	5925	6000	6125	6225	6325	6425	6525	6625
Directivity (dBi)	5.81	5.81	6.72	6.84	7.38	7.10	6.28	5.74	5.51	6.65
Efficiency (dB)	-3.26	-3.55	-3.68	-3.70	-3.99	-3.75	-4.68	-4.85	-4.47	-4.76
Efficiency (%)	47.24	44.14	42.89	42.65	39.88	42.16	34.00	32.72	35.71	33.38
Peak Gain (dBi)	2.56	2.26	3.04	3.14	3.38	3.35	1.60	0.89	1.03	1.88

Frequency	6725	6875	6925	7000	7125
Directivity (dBi)	6.44	7.06	6.62	6.36	5.67
Efficiency (dB)	-4.65	-5.00	-4.66	-4.92	-4.89
Efficiency (%)	34.32	31.62	34.17	32.19	32.41
Peak Gain (dBi)	1.80	2.06	1.95	1.44	0.78

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2.4.4. Radiation Patterns

2.4.4.1.Tets Setup

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2.5. Drawing

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3. WiFi Aux Antenna Specification

Winmate Part Number: 90RF06000021

3.1. Electrical Characteristics

Frequency(MHz): 2400-2500 / 5150-7150
SWR: ≦2@2400-2500MHz
≦3@5150-7150MHz
Return Loss: ≦-14.1dB@2400-2500MHz
≦-14.8dB@5150-7150MHz
Peak Gain: 1.14dBi@2400-2500MHz
3.85dBi@5150-7150MHz
Impedance: 50ohm
Polarization: Linear

3.2. Mechanical Characteristics

Cable: 50Ω φ0.81 RF cable
Connector: MHF4
PCB: FPCB /Thickness 0.2mm
Type:Monopole

3.3. Environmental Characteristics

Operating Temperature: -30℃ to 80℃

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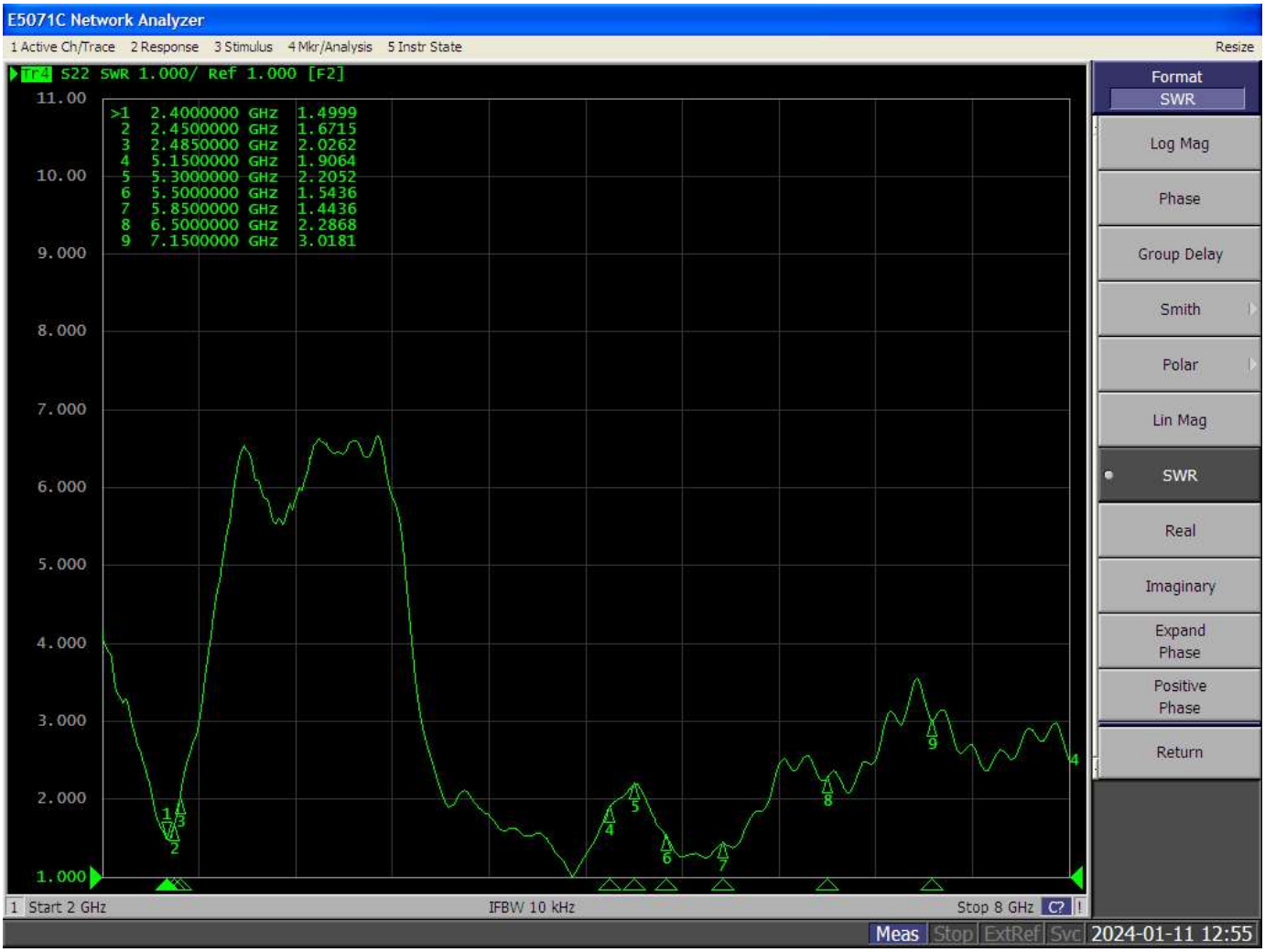
3.4. RF Performance Characteristics

3.4.1. SWR



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3.4.2. Return Loss

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3.4.3. Gain / Efficiency

Frequency	2400	2450	2483.5	2500	5150	5250	5350	5470	5600	5725
Directivity (dBi)	4.72	5.54	6.07	6.01	5.53	5.40	5.52	5.78	6.08	6.74
Efficiency (dB)	-5.12	-5.09	-4.92	-5.11	-3.30	-2.95	-2.70	-2.93	-3.30	-3.35
Efficiency (%)	30.79	30.95	32.19	30.80	46.74	50.73	53.73	50.88	46.75	46.20
Peak Gain (dBi)	-0.39	0.44	1.14	0.89	2.22	2.45	2.82	2.85	2.78	3.39

Frequency	5785	5850	5925	6000	6125	6225	6325	6425	6525	6625
Directivity (dBi)	6.77	6.66	6.66	6.79	6.87	6.29	5.39	5.31	5.09	5.21
Efficiency (dB)	-3.16	-3.25	-3.10	-2.94	-3.13	-3.42	-4.59	-4.80	-4.22	-4.27
Efficiency (%)	48.26	47.35	48.96	50.83	48.60	45.47	34.73	33.14	37.88	37.42
Peak Gain (dBi)	3.60	3.41	3.56	3.85	3.73	2.87	0.80	0.51	0.88	0.94

Frequency	6725	6875	6925	7000	7125
Directivity (dBi)	5.69	4.84	4.86	4.90	5.35
Efficiency (dB)	-4.04	-5.28	-5.00	-5.29	-4.60
Efficiency (%)	39.46	29.64	31.60	29.56	34.65
Peak Gain (dBi)	1.65	-0.44	-0.14	-0.39	0.74

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3.4.4. Radiation Patterns

3.4.4.1.Tets Setup

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3.5. Drawing