

MEASUREMENT REPORT

FCC PART 30.203 RSE

FCC ID: 2ABGH-R500L5
Applicant: Reliance Communications LLC

Product: Orbic Speed 5G
Model No.: R500L5
FCC Rule Part(s): Part 30.203
Test Date: July 18 ~ 20, 2021

Reviewed By:

Approved By:



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.26-2015. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
2107RSU043-U1	Rev. 01	Initial Report	08-11-2021	Invalid
2107RSU043-U1	Rev. 02	Modified Product Name and HW Version	10-12-2021	Invalid
2107RSU043-U1	Rev. 03	Add note from TCB comment	11-10-2021	Valid

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1. GENERAL INFORMATION

1.1. Applicant

Reliance Communications LLC

91 Colin Drive, Unit 1, HOLBROOK, New York 11741, United States

1.2. Manufacturer

Unimaxcomm

35F, HBC HuiLong Center Building-II Minzhi Street, Longhua, Shenzhen, P.R. China 518110

1.3. Testing Facility

<input checked="" type="checkbox"/>	Test Site - MRT Suzhou Laboratory
	Laboratory Location (Suzhou - Wuzhong)
	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
	Laboratory Location (Suzhou - SIP)
	4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China
	Laboratory Accreditations
	A2LA: 3628.01 CNAS: L10551
	FCC: CN1166 ISED: CN0001
	VCCI: R-20025, G-20034, C-20020, T-20020
<input type="checkbox"/>	Test Site - MRT Shenzhen Laboratory
	Laboratory Location (Shenzhen)
	1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China
	Laboratory Accreditations
	A2LA: 3628.02 CNAS: L10551
	FCC: CN1284 ISED: CN0105
<input type="checkbox"/>	Test Site - MRT Taiwan Laboratory
	Laboratory Location (Taiwan)
	No. 38, Fuxing 2 nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
	Laboratory Accreditations
	TAF: L3261-190725
	FCC: 291082, TW3261 ISED: TW3261

2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name:	Orbic Speed 5G
Model No.:	R500L5
IMEI:	352241200003832
Hardware Version:	V1.2
Software Version:	ORB500L5_v1.0.1.3_BVZRT
5G NR FR2 Specification	
Band:	n260
Frequency Range:	37000 ~ 40000MHz
Support Bandwidth:	Single Carrier: 100MHz
Modulation:	DFT-s-OFDM: QPSK / 16QAM / 64QAM
SCS for NR cell:	120kHz
Battery Information	
Battery Model:	BTE-4401
Battery Manufacturer:	HUIZHOU DXDRAGON INC
Battery Capacity:	4400mAh

Note: The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

2.2. Test Methodology

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ANSI C63.26:2015
- FCC CFR 47 Part 30
- FCC KDB 971168 D01 v03r01: Power Meas License Digital Systems
- FCC KDB 842590 D01 Upper Microwave Flexible Use Service v01r01

2.3. Device Capabilities

The NR radio operation is controlled via software tool QRCT FTM mode (Factory mode). The EUT is forced to operate continuously (100% duty cycle) with maximum output power during the test.

2.4. Test Mode Applicability

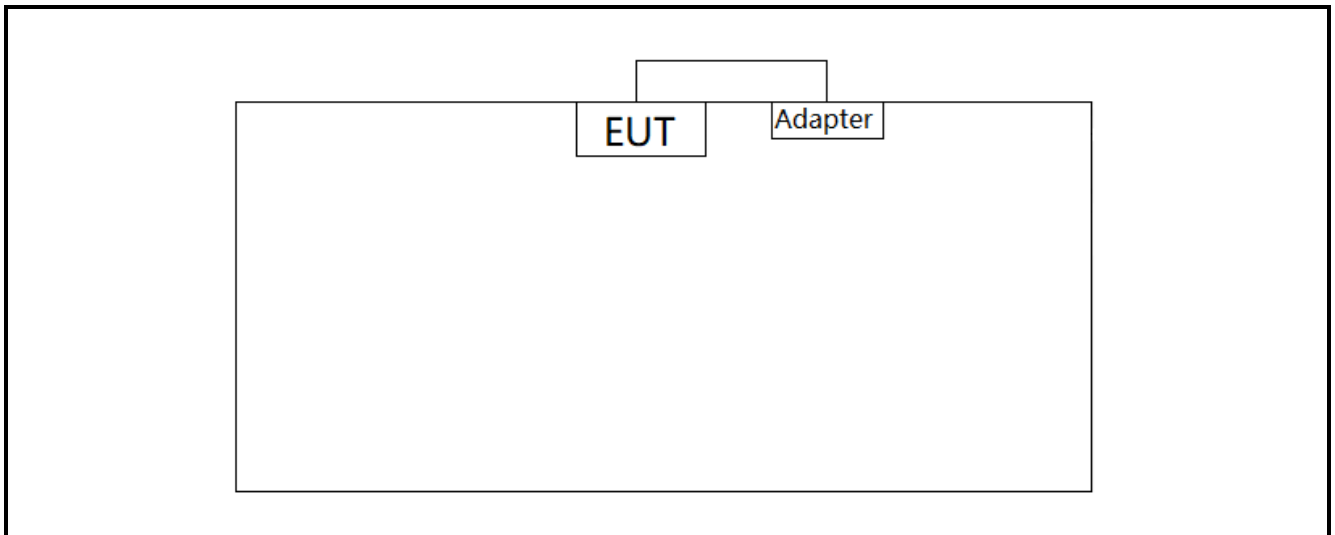
Test Item	Beam ID		Axis (X, Y, Z)
	RX	TX	
n260			
Spurious Emission	144	16	Y

Test Item	BW (MHz)		Modulation				CH.	RB		
	50	100	BPSK	QPSK	16QAM	64QAM		1	Inner	Full
Spurious Emission	--	√	--	√	--	--	L, M, H	√	--	--
Note: The mark "√" means that this configuration is chosen for testing.										

2.5. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

2.6. Configuration of Tested System



2.7. Calculations of Measurement Result

EIRP Calculation

$$\text{EIRP (dBm)} = \text{Spectrum Analyzer Level(dBm)} - \text{Antenna Gain (dBi)} + \text{Converter Loss(dB)} + 20\log(F) + 20\log(D) - 27.56$$

Where:

F: frequency (MHz)

D: Distance (m)

Example:

The frequency we select is 111.077GHz and the distance is 1m.

$$\begin{aligned} \text{Offset} &= - \text{Antenna Gain (dBi)} + \text{Converter Loss(dB)} + 20\log(F) + 20\log(D) - 27.56 \\ &= -24.70 + 11.60 + 100.91 + 20\log(1) - 27.56 \\ &= 60.25 \text{ dB} \end{aligned}$$

The test results in the screenshot already includes this offset.

2.8. Minimum Measurement Distance Evaluation

According to KDB842590 D01, the measurements of the fundamental emission, out of band, harmonics and spurious emissions shall be made in the far field of the measurement antenna. The far-field boundary for mmW antennas is greater than or equal to $2D^2/\lambda$ (with D being the largest dimension of the antenna, and λ the wavelength of the emission). When the selected far-field measurement distance is different than the distance at which the applicable limit is specified, a linear inverse distance attenuation factor (20 dB/decade of distance change for field strength) shall be applied.

For fundamental or out-of-band emissions the largest far-field distance of either the EUT antenna or measurement antenna shall be used. For spurious emissions the far-field distance will be based on the measurement antenna.

Spurious Emission

Frequency Range (GHz)	Measurement Distance (m)
110 ~ 140	1
140 ~ 220	1

2.9. Test Environment Condition

Ambient Temperature	15 ~ 35°C
Relative Humidity	20 ~ 75%RH

3. TEST EQUIPMENT CALIBRATION DATE

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cali. Date	Due Date	Asset No.
EXA Signal Analyzer	Keysight	N9030B	MY57140549	3Hz-50GHz	2020/08/31	2021/08/30	MRTSUE06395
Micro-Wave Antenna	MI-WWAVE	261F-25	385	90~140GHz	2016/12/26	N/A	MRTSUE06275
Micro-Wave Antenna	MI-WWAVE	261G	387	140~220GHz	2016/12/26	N/A	MRTSUE06274
SA Extension Module	Keysight	N9029AV06	US53250010	110-170GH	N/A	N/A	MRTSUE06368
SA Extension Module	Keysight	N9029AV05	US53250008	140-220 GHz	N/A	N/A	MRTSUE06367
Thermal Hygrometer	testo	608-H1	1945229024	T: 0~50°C; H: 10~95%RH	2020/12/04	2021/12/03	MRTSUE06622
Anechoic Chamber	RIKEN	SIP-AC3	N/A	N/A	2020/12/25	2021/12/24	MRTSUE06782

4. TEST RESULT

4.1. Summary

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
30.203	Spurious Emission	< -13dBm	Radiated	Pass	Section 4.2

Note 1: Only 110-200GHz spurious emissions were investigated in this report.

Note 2: We chose the maximum power configuration to complete the spurious emission test.

4.2. Radiated Spurious Emissions Measurements

4.2.1. Test Limit

All out of band emissions are measured in a radiated test setup while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All modulations were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

The conductive power or total radiated power of any emissions outside a licensee's frequency block shall be -13dBm/1MHz.

4.2.2. Test Procedure Used

ANSI C63.26-2015 - Section 5.7.4

KDB 842590 D01 v01 Section 4.4.2 and Section 4.4.3

4.2.3. Test Setting

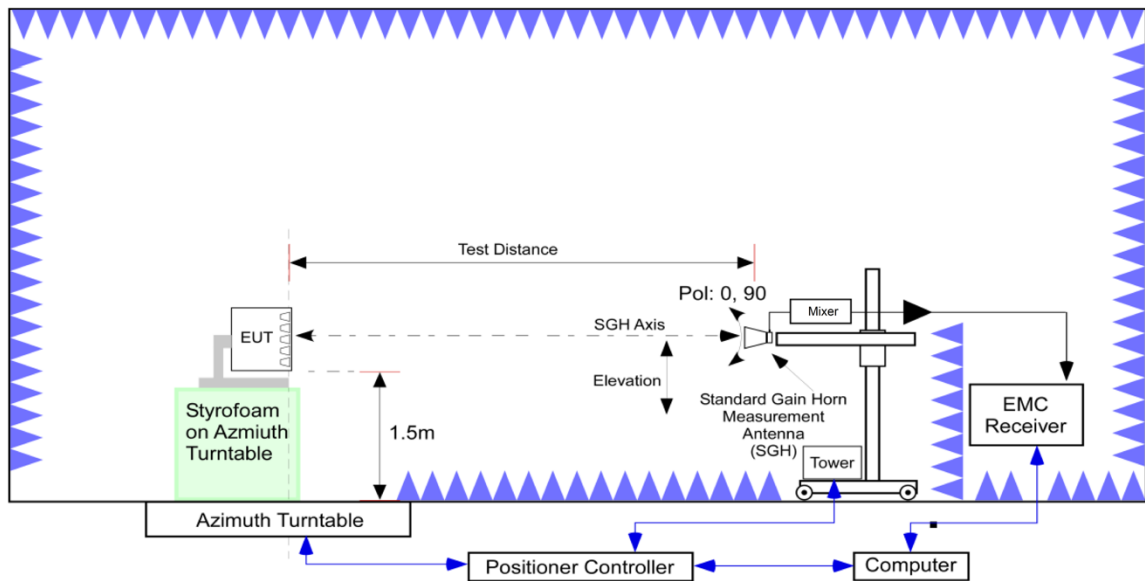
1. RBW = 1MHz
2. VBW $\geq 3 \times$ RBW
3. Sweep time $\geq 10 \times$ (number of points in sweep) \times (transmission symbol period)
4. Detector = RMS
5. Trace mode = Trace Average
6. The trace was allowed to stabilize

Test Note:

- 1) All radiated spurious emissions were measured as EIRP to compare with the §30.203 TRP limits.
- 2) The plots from 110-200GHz show corrected average EIRP levels and Harmonic Mixer Conversion Loss was also applied to the spectrum analyzer.

4.2.4. Test Setup

110GHz ~ 200GHz Test Setup:



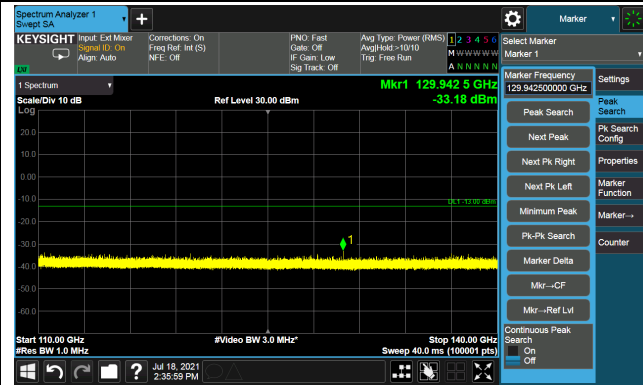
4.2.5. Test Result

Product	Orbic Speed 5G	Test Site	SIP-AC3
Test Engineer	Andy Zhu	Test Date	2021/07/18 ~ 2021/07/20
Test Mode	n260_MIMO Mode_RX Beam ID 144 & TX Beam ID 16 _110GHz ~ 140GHz		

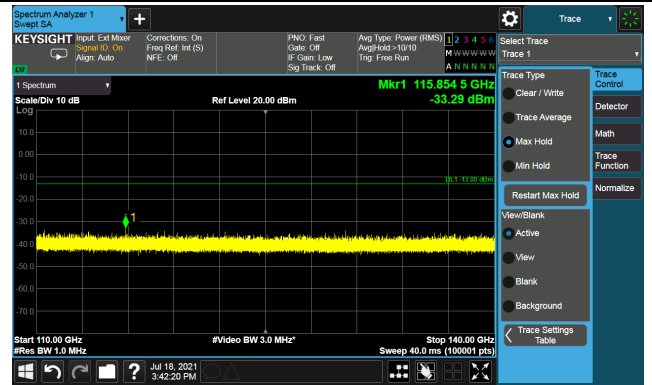
CH	BW (MHz)	RB	EIRP (dBm)		Limit (dBm)	Result
			H	V		
Low	100	1RB	-33.18	-33.29	≤ -13.00	Pass
Middle		1RB	-33.19	-32.80	≤ -13.00	Pass
High		1RB	-32.58	-29.86	≤ -13.00	Pass

Radiated Spurious Emissions - 100MHz

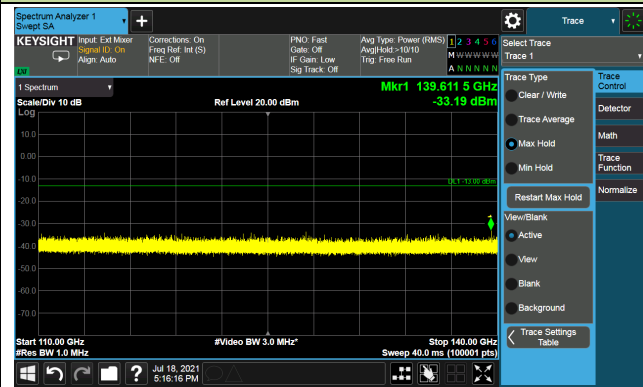
Low Channel_1RB (Horizontal)



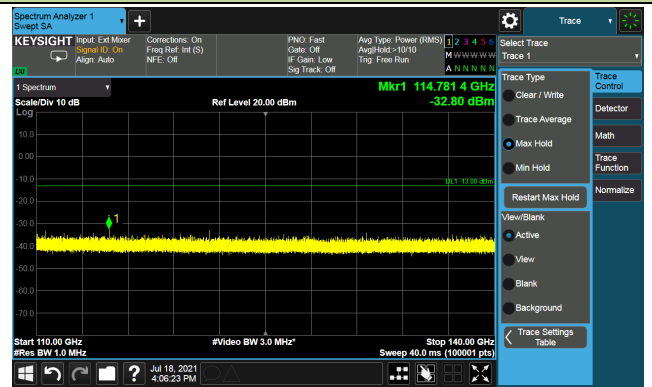
Low Channel_1RB (Vertical)



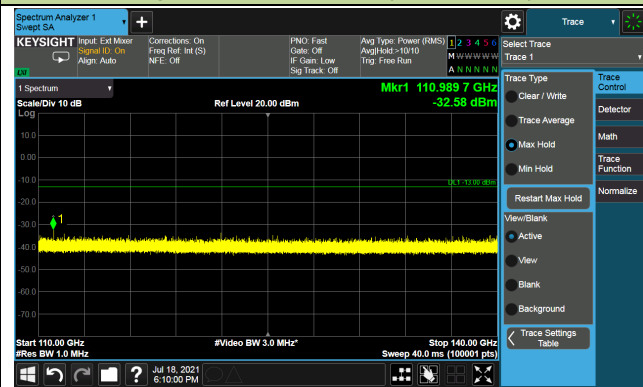
Middle Channel_1RB (Horizontal)



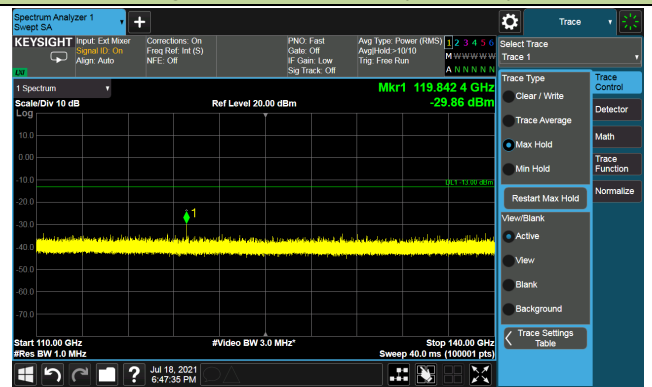
Middle Channel_1RB (Vertical)



High Channel_1RB (Horizontal)



High Channel_1RB (Vertical)

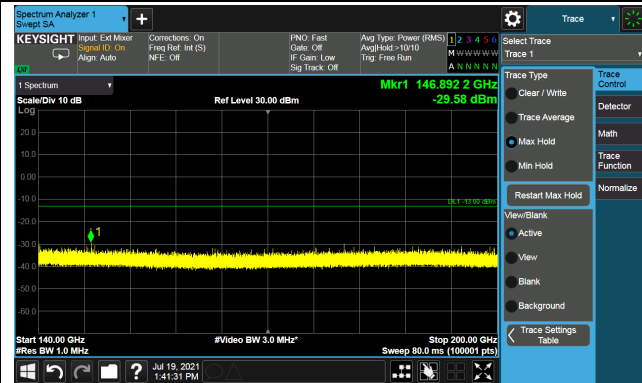


Product	Orbic Speed 5G	Test Site	SIP-AC3
Test Engineer	Andy Zhu	Test Date	2021/07/18 ~ 2021/07/20
Test Mode	n260_MIMO Mode_RX Beam ID 144 & TX Beam ID 16_140GHz ~ 200GHz		

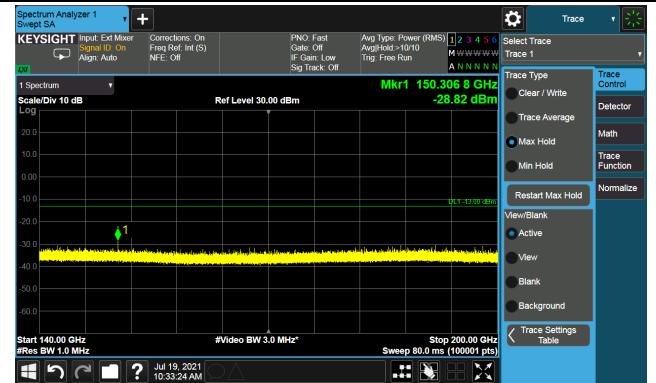
CH	BW (MHz)	RB	EIRP (dBm)		Limit (dBm)	Result
			H	V		
Low	100	1RB	-29.58	-28.82	≤ -13.00	Pass
Middle		1RB	-30.43	-29.58	≤ -13.00	Pass
High		1RB	-29.54	-30.23	≤ -13.00	Pass

Radiated Spurious Emissions - 100MHz

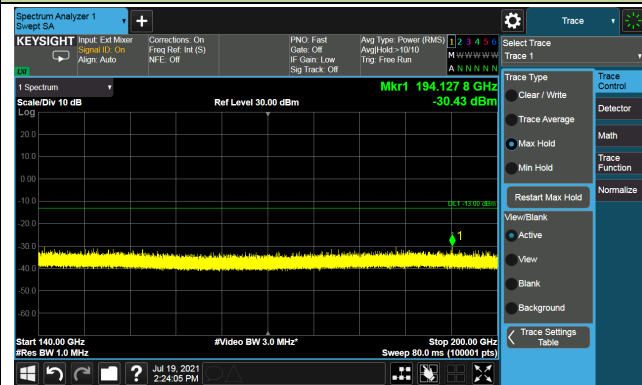
Low Channel_1RB (Horizontal)



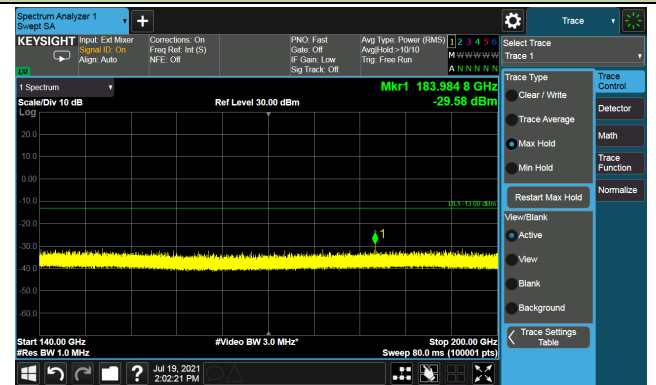
Low Channel_1RB (Vertical)



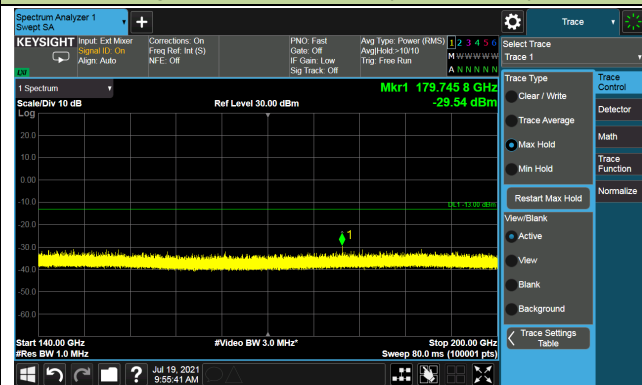
Middle Channel_1RB (Horizontal)



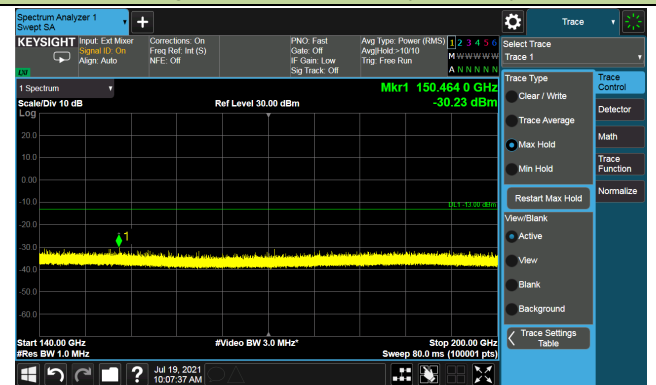
Middle Channel_1RB (Vertical)



High Channel_1RB (Horizontal)



High Channel_1RB (Vertical)



The End

Appendix A - Test Setup Photograph

Refer to "2107RSU043-UT" file.

Appendix B - Equipment Calibration Certificate

Micro-Wave Antenna - 90 - 140G

MI-WAVE

Millimeter Products Inc.

2200 Tall Pines Drive
Suite 100
Largo, FL 33771
Tel. (727) 536-0033
Fax. (727) 536-0012

Test Data Sheet
261F-25/385

Specifications

Frequency Range 90 to 140 GHz WR-08

Frequency (GHz)	Gain (db)
90.0	23.4
95.0	23.7
100.0	24.1
105.0	24.4
110.0	24.7
115.0	25.0
120.0	25.2
125.0	25.4
130.0	25.5
135.0	25.7
140.0	25.9

Tested by _____ Date _____

Micro-Wave Antenna - 140 - 220G

MI-WAVE**Millimeter Products Inc.**

2200 Tall Pines Drive
Suite 100
Largo, Fl. 33771
Tel. (727) 536-0033
Fax. (727) 536-0012

Test Data Sheet
261G-25/387

Specifications

Frequency Range 140 to 220 GHz WR-05

Frequency (GHz)	Gain (db)
140.0	23.5
145.0	23.7
150.0	23.9
155.0	24.1
160.0	24.3
165.0	24.6
170.0	24.8
175.0	25.0
180.0	25.1
190.0	25.4
200.0	25.6
210.0	25.7
220.0	25.8

Tested by _____ Date _____



N9029AV06 Conversion Loss Data

SAX 176 Conversion Loss

Note: Out of band data is not guaranteed to be accurate.

Freq(GHz)	*A* LCMF Input/Output	*B* Standard Input	*C* High Freq. Input	High Freq. Intrinsic Mixer Loss	Standard Freq. Intrinsic Mixer Loss
140.00	11.4588	-1.4688	-1.1281	10.66786047	10.38615107
140.80	11.5383	-1.3966	-0.8949	10.89445437	10.46188817
141.60	11.0199	-1.8998	-1.9279	9.962309889	10.0161337
142.40	10.8230	-2.0928	-2.1223	10.0455533	10.0809186
143.20	10.2839	-2.6194	-2.6477	9.508234121	9.548945921
144.00	10.5276	-2.3855	-2.5330	9.458753579	9.608467179
144.80	10.7186	-2.2001	-2.4504	9.809950087	9.891112787
145.60	10.8598	-2.0536	-2.0581	10.19231355	10.19894806
146.40	10.8396	-2.0997	-2.0531	10.19016394	10.17189774
147.20	10.3411	-2.5992	-2.7161	9.437698045	9.574288845
148.00	10.1682	-2.7440	-2.7252	9.408296151	9.392292851
148.80	10.4312	-2.4774	-2.4081	9.79993444	9.87248044
149.60	11.1054	-1.8015	-1.7488	10.52887381	10.44524801
150.40	10.9527	-1.9540	-1.9272	10.34188617	10.33444037
151.20	10.3938	-2.5121	-2.4870	9.689399972	9.670622072
152.00	10.0649	-2.8426	-2.8004	9.303334237	9.210169837
152.80	10.0825	-2.8467	-2.8216	9.268854158	9.218948958
153.60	10.9998	-1.8028	-1.8725	10.41448511	10.35928111
154.40	10.8115	-2.2963	-2.2781	9.88289159	9.88084519
155.20	9.9906	-2.9172	-2.9040	9.232475278	9.223703778
156.00	9.5877	-3.3441	-3.3760	8.631205461	8.638562861
156.80	9.6287	-3.2798	-3.2513	8.78514208	8.71287448
157.60	9.8245	-2.8870	-2.9418	9.261546722	9.180329222
158.40	10.3302	-2.6753	-2.5254	9.688105406	9.611893206
159.20	9.7828	-3.1165	-3.0783	9.083578478	9.043854978
160.00	9.6837	-3.2248	-3.1909	8.886140831	8.840870031
160.80	9.8528	-3.2572	-3.1840	9.011378648	8.816598548
161.60	10.0887	-2.8443	-2.7812	9.426544082	9.330216282
162.40	10.1768	-2.7300	-2.8757	9.551188073	9.490609673
163.20	10.1639	-2.7477	-2.7009	9.480541232	9.421341832
164.00	9.7690	-3.1477	-3.1004	9.014170048	8.932272048
164.80	9.8200	-3.0928	-3.0789	9.023246704	8.974455004
165.60	9.6428	-3.2607	-3.3014	8.77748016	8.78549886
166.40	10.1895	-2.7244	-2.8486	9.298234378	9.404854578
167.20	10.4734	-2.4413	-2.8359	9.343436032	9.881399132
168.00	10.5109	-2.4007	-2.8911	9.235984312	9.733901412
168.80	10.4358	-2.4741	-3.1097	9.677929285	9.610299785
169.60	10.2394	-2.6723	-2.7157	9.382580716	9.427806916
170.40	9.7855	-3.1286	-3.1283	8.953232779	8.921142479
171.20	10.1872	-2.7086	-2.7452	9.354368723	9.380848423
172.00	10.4727	-2.4353	-2.4847	9.658711115	9.675122015
172.80	9.9584	-2.9546	-3.0205	9.054821718	9.107839418
173.60	9.8533	-3.0535	-3.0679	8.855693372	9.002038172
174.40	10.0012	-2.8077	-2.8314	9.10793708	9.13874749
175.20	10.0303	-2.8807	-2.8781	9.175037865	9.172808065
176.00	9.8435	-3.0670	-3.0647	8.9984844	8.990178
176.80	9.8023	-3.0076	-3.0454	9.003381543	9.046049543
177.60	9.7478	-3.1641	-3.1713	8.824568927	8.880734327
178.40	10.0611	-2.8518	-3.0974	9.825458423	9.191786023
179.20	9.8626	-3.0488	-3.1822	8.845248548	8.980053448
180.00	10.3765	-2.5384	-3.0120	9.023615844	9.524103744
180.80	10.5314	-2.3831	-3.0681	9.820277037	9.863018137
181.60	9.9880	-2.9225	-3.4418	8.533230484	9.086123884
182.40	10.5906	-2.3181	-3.3589	9.840469798	9.714027386
183.20	10.2080	-2.7072	-3.1000	9.850815175	9.354089475
184.00	10.2501	-2.6907	-2.9582	9.133575293	9.424542593
184.80	10.1988	-2.7125	-2.7617	9.378248945	9.427821345
185.60	10.0237	-2.8884	-2.9445	9.174108124	9.221868424
186.40	10.1178	-2.7958	-2.8354	9.289582295	9.328985895
187.20	9.9116	-2.9994	-3.0523	8.965394684	9.119477484
188.00	10.2098	-2.7005	-2.7483	9.434581465	9.489879165
188.80	10.6880	-2.2278	-2.2225	10.009038823	10.00143813
189.60	10.7574	-2.1584	-2.1584	10.08530002	10.08454792
190.40	10.5986	-2.3148	-2.3551	9.848088812	9.889417112

181.20	10.8515	-2.2597	-2.5395	9.596112581	9.835388381
182.00	10.3762	-2.5347	-2.8469	9.233643018	9.509987518
182.80	10.7083	-2.2087	-2.5091	9.927841929	9.939343326
183.60	10.8837	-2.0458	-2.3240	9.834691264	10.07647596
184.40	10.7557	-2.1589	-2.4970	9.840362477	9.958875877
185.20	10.2193	-2.6975	-2.8702	9.178848947	9.353568347
186.00	9.8135	-3.1018	-3.1998	8.759904457	8.849840957
186.80	9.5998	-3.3150	-3.3476	8.563703458	8.588409458
187.60	9.6098	-3.3054	-3.2870	8.621510827	8.592115427
188.40	9.4018	-3.5132	-3.5036	8.382574022	8.362881022
189.20	9.8133	-3.3037	-3.3083	8.618465337	8.628573137
200.00	9.5727	-3.3428	-3.3266	8.583992575	8.528602975
200.80	9.3390	-3.5772	-3.5687	8.288918047	8.284465547
201.60	9.2757	-3.6425	-3.6303	8.20791295	8.20144525
202.40	9.1983	-3.7203	-3.7062	8.123187399	8.108725599
203.20	9.0726	-3.8420	-3.8361	7.980378757	7.987916757
204.00	9.2989	-3.6217	-3.6117	8.264910727	8.246487927
204.80	9.7615	-3.1578	-3.1471	8.750031069	8.746040169
205.60	9.5844	-3.3309	-3.3183	8.547398987	8.538325497
206.40	9.8159	-3.2975	-3.2884	8.6036188	8.5929101
207.20	9.6157	-3.3059	-3.3010	8.612695199	8.590490599
208.00	9.8288	-3.2908	-3.2821	8.692428982	8.680478282
208.80	9.8952	-3.0234	-3.0145	8.853587078	8.864641578
209.60	10.0502	-2.8666	-2.8589	9.11055119	9.10742359
210.40	10.1977	-2.7188	-2.7033	9.208525342	9.198636042
211.20	9.9633	-2.9544	-2.9384	8.94524481	8.93983491
212.00	10.0197	-2.8945	-2.8813	9.001238918	8.996306918
212.80	10.1718	-2.7425	-2.7240	9.173380152	9.147048352
213.60	10.2939	-2.6191	-2.6015	9.326128482	9.309896682
214.40	10.3931	-2.5179	-2.4978	9.40016897	9.39856807
215.20	10.5424	-2.3655	-2.3485	9.591691357	9.581215557
216.00	10.5280	-2.3849	-2.3649	9.545030582	9.509073882
216.80	10.7628	-2.1532	-2.1237	9.803154612	9.724883912
217.60	10.5425	-2.3716	-2.3583	9.477087775	9.447100775
218.40	10.6178	-2.2950	-2.2767	9.529118206	9.504559306
219.20	10.6078	-2.3078	-2.2875	9.544223225	9.539591525
220.00	10.7875	-2.1217	-2.1086	9.74300038	9.74548638



N9029AV05 Conversion Loss Data

SAX 177 Conversion Loss

Note: Out of band data is not guaranteed to be accurate.

Freq(GHz)	*A* LO/F Input/Output	*B* Standard Input	*C* High Freq. Input	High Freq. Intrinsic Mixer Loss	Standard Freq. Intrinsic Mixer Loss
110	11.68384112	-3.383088078	-3.284527678	10.15474872	10.06337012
110.6	11.57308777	-3.498883729	-3.568193529	9.794878271	9.864229971
111.2	11.991107	-3.0770951	-3.2618364	9.878209	10.1049861
111.8	11.98779416	-3.074688438	-2.975434636	10.08663266	10.02446926
112.4	11.00529699	-4.06890307	-4.025038407	9.269998593	9.237336893
113	10.8932281	-4.210285997	-4.217390897	9.255584503	9.263070203
113.6	10.91497407	-4.162371434	-4.168123534	9.318568666	9.329251366
114.2	10.99089864	-4.084266657	-4.08900257	9.409154243	9.409753643
114.8	11.06091626	-4.015066241	-4.004458541	9.432365059	9.426758159
115.4	11.35193185	-3.720165048	-3.648222748	9.542657852	9.465904952
116	11.41763792	-3.654806184	-3.617456484	9.614491316	9.600050416
116.6	11.46837949	-3.609815605	-3.612824805	9.744009295	9.749827795
117.2	11.24394617	-3.832973226	-3.858641326	9.596371174	9.626489574
117.8	12.13468657	-2.839075534	-2.967255834	10.82198607	10.64900317
118.4	11.81514805	-3.261696349	-3.293169949	10.28307455	10.31977575
119	11.07245991	-4.001813685	-4.040085185	9.433749615	9.475085215
119.6	10.6021445	-4.475097598	-4.462485498	8.848862102	8.849784602
120.2	10.67841275	-4.398393646	-4.396865446	8.914752254	8.901209254
120.8	10.54034626	-4.535781244	-4.503172944	8.733081458	8.713703958
121.4	10.43688839	-4.693048005	-4.641873005	8.723823495	8.731438295
122	10.73766783	-4.34008807	-4.38364627	9.06399849	9.08444773
122.6	11.18180133	-3.89750617	-3.93439927	9.60312293	9.60526233
123.2	10.98592437	-4.09134683	-4.13101813	9.39273377	9.42817707
123.8	10.60572596	-4.473785537	-4.509993337	8.908536663	8.951818663
124.4	10.26158773	-4.814082667	-4.814839667	8.527585333	8.547649433
125	10.29704907	-4.778142334	-4.744799034	8.503953466	8.487753966
125.6	10.2834205	-4.784596796	-4.769800196	8.504213204	8.500806604
126.2	10.14617007	-4.930938233	-4.935063433	8.412498607	8.427475267
126.8	10.32517229	-4.758985515	-4.792939815	8.680832985	8.723357985
127.4	10.72703093	-4.350890998	-4.391482698	9.108328532	9.151334732
128	10.59098982	-4.488057181	-4.554195581	9.916502319	9.989988219
128.6	10.29146755	-4.789838747	-4.852441347	8.543852553	8.621792853
129.2	10.13747132	-4.940275994	-4.954622494	8.358197716	8.383355616
129.8	10.13804141	-4.84301379	-4.92917239	8.31752111	8.31847441
130.4	10.05111355	-5.02571795	-4.98910985	8.20328985	8.18415085
131	9.844265812	-5.134197988	-5.131907288	8.135169912	8.14953112
131.6	9.819267082	-5.158011838	-5.171745638	8.150525982	8.171902982
132.2	10.21798389	-4.894699005	-4.889313705	8.468845195	8.501053695
132.8	10.1754814	-4.901746998	-4.933994998	8.420883002	8.464122902
133.4	10.13621303	-4.942454274	-4.951791674	8.302749726	8.328267426
134	10.12951225	-4.948376545	-4.96958725	8.29808545	8.33451345
134.6	10.18166064	-4.894931257	-4.906898757	8.344367243	8.367774443
135.2	9.971954356	-5.104816044	-5.117878744	8.110247356	8.131887956
135.8	9.807437588	-5.268872504	-5.279411704	7.954848996	7.978883296
136.4	9.697643456	-5.379426544	-5.403232944	7.851466756	7.893915856
137	9.660205948	-5.118276252	-5.148837452	8.127309348	8.165217948
137.6	9.825817484	-5.151427519	-5.178410319	8.081951784	8.116321984
138.2	9.919354108	-5.158658792	-5.188698192	8.073004208	8.118497708
138.8	10.23777035	-4.839845354	-4.868235954	8.398365246	8.432570246
139.4	10.13996516	-4.938238138	-4.967744738	8.274453492	8.312944492
140	10.08040165	-4.996442152	-5.018328252	8.192915048	8.227040348
140.6	9.889714998	-5.087688934	-5.109378534	8.100458898	8.134620998
141.2	10.12940496	-4.947642842	-4.968378442	8.259190758	8.291700858
141.8	10.2503636	-4.827805796	-4.852789396	8.392201804	8.427210904
142.4	10.18997497	-4.908530031	-4.930509131	8.324533499	8.352955599
143	10.1487116	-4.930242697	-4.956637797	8.273785103	8.313147903
143.6	10.05627483	-5.017684267	-5.046291167	8.207837633	8.246257233
144.2	10.0938837	-4.983466999	-5.011739298	8.258377602	8.294802302
144.8	10.08779694	-4.988928853	-5.021805193	8.258250237	8.303105537
145.4	10.14393933	-4.933785974	-4.951389374	8.297843826	8.330268026
146	10.19878762	-4.879804076	-4.918414776	8.415587724	8.465679124
146.6	10.33665906	-4.738089742	-4.788201342	8.598551658	8.657999158
147.2	10.28622714	-4.777755558	-4.824349158	8.547856041	8.605455341
147.8	10.40400017	-4.872716727	-4.722047827	8.659449673	8.716965673

Note: Out of band data is not guaranteed to be accurate.

148.4	10.41871373	-4.055984769	-4.701169668	8.660555834	8.716235734
149	10.61704695	-4.45634625	-4.49827305	8.89344215	8.94058145
148.6	10.78381732	-4.287180677	-4.320787077	8.082489423	9.139747823
150.2	10.91422647	-4.154844731	-4.201813831	8.243608769	9.303173669
150.6	10.89764612	-4.177070275	-4.218218975	9.228124325	9.279521225
151.4	11.03332669	-4.045804506	-4.112178806	9.321604294	9.384774394
152	11.04539127	-4.023083433	-4.088204333	9.332892267	9.418491967
152.6	10.64528085	-4.428978151	-4.489856051	8.671868749	8.957024449
153.2	10.28146891	-4.782218891	-4.833392891	8.478825509	8.549272809
153.8	10.18745393	-4.888304071	-4.921833271	8.364828529	8.417205029
154.4	10.26686537	-4.806173332	-4.839881932	8.439852768	8.487441568
155	10.18598004	-4.910518985	-4.940348465	8.306379035	8.353188035
153.6	10.22468658	-4.8492024	-4.8673778	8.3788428	8.4067188
156.2	9.984389189	-5.091953101	-5.095343001	8.100506989	8.112480389
156.6	9.938283262	-5.139303038	-5.149130538	8.058994362	8.078223262
157.4	10.10350448	-4.974325217	-4.976439617	8.203510993	8.217241383
158	10.01580289	-5.056739813	-5.056429713	8.083063087	8.101883287
158.6	10.04982727	-5.026637634	-5.021229834	8.134158166	8.143541066
159.2	9.999188909	-5.079774791	-5.073828391	8.084533109	8.091975109
159.8	10.28292388	-4.811482617	-4.825544117	8.400784483	8.422885683
160.4	10.42051026	-4.654485639	-4.674805839	8.835618881	8.868203961
161	10.40855468	-4.689838023	-4.698050523	8.849440877	8.884748877
161.6	10.5859407	-4.4875449	-4.5083604	8.832814	8.8609311
162.2	10.58910213	-4.485138268	-4.500856168	8.781372232	8.810040232
162.8	10.23460207	-4.841260135	-4.794720735	8.361583565	8.335323865
163.4	10.76013128	-4.315841219	-4.243530019	8.800908881	8.745507281
164	10.7436443	-4.331566504	-4.308102904	8.816904796	8.812476396
164.6	10.39266314	-4.682340061	-4.690636261	8.508988339	8.529903439
165.2	10.7390094	-4.330418604	-4.350848504	8.812247498	8.840071698
165.8	10.7744961	-4.2844993	-4.3188387	8.971459	9.0040597
166.4	10.66896975	-4.404105245	-4.414225845	8.851824455	8.888904855
167	10.6084867	-4.483356295	-4.459720395	8.744884205	8.740988805
167.6	11.01030085	-4.082801647	-4.067298247	9.001789853	9.007684853
168.2	11.72842324	-3.347318768	-3.306085868	9.653628442	9.819054842
168.8	11.39678122	-3.674839879	-3.634377579	9.382207421	9.329430421
169.4	11.05544431	-4.015085485	-3.982721985	9.104862415	9.084423915
170	11.12089628	-3.951708841	-3.952433341	9.228127259	9.237707659



中国赛宝实验室计量检测中心
(工业和信息化部电子第五研究所计量检测中心)
CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE

校准证书

CALIBRATION CERTIFICATE

证书编号: 1JA20004438-0004

Certificate No.



中国认可
国际互认
校准
CALIBRATION
CNAS L13344

委托单位: Client	曼瑞检测科技(苏州)有限公司		
委托方地址: Address	苏州市吴中经济开发区天鹅荡路2号友新工业园D8幢		
仪器名称: Description	PX A Signal Analyzer		
型号规格: Model/Type	N9030B		
制造商: Manufacturer	KEYSIGHT		
机身号: Serial No.	MY57140549		
管理号: Asset No.	MRTSUE06395		
接收日期: Rec. Date	2020-08-31	校准日期: Cal. Date	2020-08-31
签发日期: App. Date	2020-09-01	建议校准周期: Reference Cal. Period	12个月(12 months)
结论: Conclusion	所校准项目合格(Passed at Calibration Items)		

 校准:
Calibrated by



 核验:
Inspected by



 签发:
Approved by



 印章:
Stamp

赛宝计量检测中心
广州总部地址: 广州天河区东莞庄路110号
苏州分部地址: 苏州高新区珠江路117号
客服电话: 0512-68076661 传真: 0512-68076669
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