

APPENDIX D - MEASURED LIQUID DIELECTRIC PARAMETERS

1800MHz Validation & Evaluation

Measured Liquid Dielectric Parameters (Brain)

January 4, 2002

Frequency	ϵ'	ϵ''
1.750000000 GHz	39.6585	13.9011
1.755000000 GHz	39.6411	13.9091
1.760000000 GHz	39.6239	13.9171
1.765000000 GHz	39.6042	13.9359
1.770000000 GHz	39.5834	13.9367
1.775000000 GHz	39.5692	13.9430
1.780000000 GHz	39.5434	13.9499
1.785000000 GHz	39.5297	13.9560
1.790000000 GHz	39.5139	13.9632
1.795000000 GHz	39.4866	13.9713
1.800000000 GHz	39.4685	13.9738
1.805000000 GHz	39.4512	13.9821
1.810000000 GHz	39.4309	13.9952
1.815000000 GHz	39.4198	14.0029
1.820000000 GHz	39.3986	14.0135
1.825000000 GHz	39.3612	14.0219
1.830000000 GHz	39.3472	14.0283
1.835000000 GHz	39.3371	14.0505
1.840000000 GHz	39.3316	14.0699
1.845000000 GHz	39.3077	14.0884
1.850000000 GHz	39.2905	14.0877
1.855000000 GHz	39.2781	14.0993
1.860000000 GHz	39.2554	14.1231
1.865000000 GHz	39.2402	14.1243
1.870000000 GHz	39.2043	14.1354
1.875000000 GHz	39.1911	14.1534
1.880000000 GHz	39.1795	14.1735
1.885000000 GHz	39.1533	14.1937
1.890000000 GHz	39.1319	14.2020
1.895000000 GHz	39.1134	14.2144
1.900000000 GHz	39.0915	14.2350
1.905000000 GHz	39.0652	14.2435
1.910000000 GHz	39.0393	14.2428
1.915000000 GHz	39.0198	14.2799
1.920000000 GHz	38.9984	14.2854

1800MHz Validation & Evaluation

Measured Liquid Dielectric Parameters (Brain)

January 7, 2002

Frequency	e'	e''
1.750000000 GHz	39.6431	13.9596
1.755000000 GHz	39.6212	13.9703
1.760000000 GHz	39.5995	13.9808
1.765000000 GHz	39.5758	13.9926
1.770000000 GHz	39.5624	13.9952
1.775000000 GHz	39.5470	13.9991
1.780000000 GHz	39.5181	14.0110
1.785000000 GHz	39.5072	14.0061
1.790000000 GHz	39.4888	14.0241
1.795000000 GHz	39.4702	14.0208
1.800000000 GHz	39.4491	14.0435
1.805000000 GHz	39.4322	14.0423
1.810000000 GHz	39.4103	14.0472
1.815000000 GHz	39.3921	14.0530
1.820000000 GHz	39.3751	14.0703
1.825000000 GHz	39.3400	14.0772
1.830000000 GHz	39.3271	14.0951
1.835000000 GHz	39.3215	14.1146
1.840000000 GHz	39.3107	14.1250
1.845000000 GHz	39.2984	14.1425
1.850000000 GHz	39.2663	14.1418
1.855000000 GHz	39.2561	14.1519
1.860000000 GHz	39.2260	14.1683
1.865000000 GHz	39.2180	14.1711
1.870000000 GHz	39.1805	14.1892
1.875000000 GHz	39.1587	14.2125
1.880000000 GHz	39.1475	14.2234
1.885000000 GHz	39.1241	14.2479
1.890000000 GHz	39.0998	14.2609
1.895000000 GHz	39.0882	14.2840
1.900000000 GHz	39.0623	14.2981
1.905000000 GHz	39.0425	14.3025
1.910000000 GHz	39.0229	14.3067
1.915000000 GHz	38.9933	14.3323
1.920000000 GHz	38.9832	14.3366

1800MHz Evaluation

Measured Liquid Dielectric Parameters (Body)

January 7, 2002

Frequency	ϵ'	ϵ''
1.750000000 GHz	53.5662	15.1334
1.755000000 GHz	53.5372	15.1321
1.760000000 GHz	53.5115	15.1429
1.765000000 GHz	53.5086	15.1494
1.770000000 GHz	53.4998	15.1572
1.775000000 GHz	53.4779	15.1576
1.780000000 GHz	53.4587	15.1521
1.785000000 GHz	53.4533	15.1535
1.790000000 GHz	53.4393	15.1659
1.795000000 GHz	53.4222	15.1700
1.800000000 GHz	53.4124	15.1862
1.805000000 GHz	53.3981	15.1880
1.810000000 GHz	53.3931	15.2002
1.815000000 GHz	53.3788	15.2094
1.820000000 GHz	53.3739	15.2290
1.825000000 GHz	53.3633	15.2498
1.830000000 GHz	53.3457	15.2621
1.835000000 GHz	53.3436	15.2830
1.840000000 GHz	53.3454	15.3077
1.845000000 GHz	53.3434	15.3359
1.850000000 GHz	53.3269	15.3511
1.855000000 GHz	53.3193	15.3511
1.860000000 GHz	53.3059	15.3894
1.865000000 GHz	53.2907	15.3963
1.870000000 GHz	53.2724	15.4319
1.875000000 GHz	53.2692	15.4428
1.880000000 GHz	53.2484	15.4623
1.885000000 GHz	53.2143	15.4867
1.890000000 GHz	53.1960	15.5078
1.895000000 GHz	53.1796	15.5383
1.900000000 GHz	53.1661	15.5553
1.905000000 GHz	53.1432	15.5737
1.910000000 GHz	53.1228	15.5861
1.915000000 GHz	53.0833	15.6052
1.920000000 GHz	53.0635	15.6211

APPENDIX E - CERTIFICATE OF CONFORMANCE: SAM PHANTOM

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Certificate of conformity / First Article Inspection

Item	SAM Twin Phantom V4.0
Type No	QD 000 P40 BA
Series No	TP-1002 and higher
Manufacturer / Origin	Untersee Composites Hauptstr. 69 CH-8559 Fruthwilen Switzerland

Tests

The series production process used allows the limitation to test of first articles.
Complete tests were made on the pre-series Type No. QD 000 P40 AA, Serial No. TP-1001 and on the series first article Type No. QD 000 P40 BA, Serial No. TP-1006. Certain parameters have been retested using further series units (called samples).

Test	Requirement	Details	Units tested
Shape	Compliance with the geometry according to the CAD model.	IT'IS CAD File (*)	First article, Samples
Material thickness	Compliant with the requirements according to the standards	2mm +/- 0.2mm in specific areas	First article, Samples
Material parameters	Dielectric parameters for required frequencies	200 MHz – 3 GHz Relative permittivity < 5 Loss tangent < 0.05.	Material sample TP 104-5
Material resistivity	The material has been tested to be compatible with the liquids defined in the standards	Liquid type HSL 1800 and others according to the standard.	Pre-series, First article

Standards

- [1] CENELEC EN 50361
- [2] IEEE P1528-200x draft 6.5
- [3] IEC PT 62209 draft 0.9

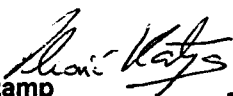
(*) The IT'IS CAD file is derived from [2] and is also within the tolerance requirements of the shapes of [1] and [3].

Conformity

Based on the sample tests above, we certify that this item is in compliance with the uncertainty requirements of SAR measurements specified in standard [1] and draft standards [2] and [3].

Date 18.11.2001

Signature / Stamp



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