



TEST DATA

Applicant	ALE International
Product	BTWDB01
Model	BTWDB01
HW Version	3ML23008AAAA
SW Version	R100-1.00.14.454
Report No	Y2106A0666-T1
Test Date	July 8, 2021

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Test Results:
1.1. Gain and Efficiency

Model(IMEI)	Test Item	Test State	Frequency (MHz)	Efficiency(%)	Gain(dBi)	Note
BTWDB01-1	3D GAIN	FS	2405	31.85	2.46	BTWDB01-1
			2410	33.61	2.82	
			2415	38.44	3.07	
			2420	43.65	2.91	
			2425	44.44	3.04	
			2430	45.96	2.64	
			2435	46.22	2.44	
			2440	44.33	2.07	
			2445	40.81	1.84	
			2450	39.40	1.86	
			2455	39.62	1.75	
			2460	39.98	1.96	
			2465	39.03	1.80	
			2470	39.31	2.10	
			2475	41.02	2.20	
			2480	40.50	1.94	
			5100	10.48	-4.38	
			5105	10.56	-4.55	
			5110	11.60	-4.14	
			5115	12.42	-3.87	
			5120	13.39	-3.49	
			5125	13.93	-3.09	
			5130	14.89	-2.41	
			5135	15.04	-3.11	
			5140	15.68	-2.33	
			5145	14.94	-2.43	
			5150	13.87	-2.69	
			5155	13.22	-2.70	
			5160	13.56	-2.98	
			5165	13.86	-3.01	
			5170	14.11	-2.96	
			5175	15.04	-2.26	
			5180	15.81	-2.74	
			5185	16.16	-2.30	
			5190	16.28	-2.14	
			5195	16.15	-2.09	
			5200	16.00	-2.44	



			5205	15.39	-2.78	
			5210	15.41	-2.51	
			5215	15.42	-2.99	
			5220	16.09	-2.45	
			5225	17.04	-2.05	
			5230	17.62	-1.75	
			5235	17.78	-2.09	
			5240	17.64	-1.89	
			5245	18.09	-1.38	
			5250	18.29	-1.52	
			5255	18.35	-1.52	
			5260	18.44	-1.49	
			5265	18.71	-1.78	
			5270	20.10	-1.01	
			5275	20.77	-0.84	
			5280	21.19	-0.94	
			5285	20.33	-1.14	
			5290	20.01	-1.31	
			5295	20.23	-1.23	
			5300	20.35	-0.97	
			5305	19.86	-1.30	
			5310	18.34	-1.72	
			5315	19.22	-1.34	
			5320	19.47	-1.34	
			5325	20.56	-0.77	
			5330	24.21	-0.21	
			5335	26.38	0.41	
			5340	27.35	0.24	
			5345	27.49	0.08	
			5350	26.94	0.61	
			5355	26.63	0.26	
			5360	23.99	-0.39	
			5365	24.18	-0.15	
			5370	24.95	-0.26	
			5375	25.13	0.10	
			5380	25.76	0.02	
			5385	26.23	0.14	
			5390	27.49	0.20	
			5395	27.13	-0.09	
			5400	28.41	0.33	
			5405	29.41	0.65	
			5410	27.52	0.01	
			5415	25.52	0.17	



			5420	26.39	0.36	
			5425	26.86	0.11	
			5430	28.15	0.44	
			5435	28.02	0.32	
			5440	29.25	0.54	
			5445	29.50	0.55	
			5450	30.42	1.39	
			5455	31.16	0.89	
			5460	31.49	1.12	
			5465	30.38	1.11	
			5470	30.36	0.90	
			5475	32.09	1.51	
			5480	32.95	1.23	
			5485	34.01	1.45	
			5490	33.89	1.52	
			5495	33.83	1.49	
			5500	35.86	1.92	
			5505	35.65	1.74	
			5510	36.15	1.54	
			5515	36.73	2.11	
			5520	36.66	1.66	
			5525	36.36	1.78	
			5530	35.68	2.20	
			5535	35.53	1.89	
			5540	34.49	1.63	
			5545	35.11	2.23	
			5550	35.69	1.91	
			5555	37.55	2.18	
			5560	38.47	1.99	
			5565	38.61	2.33	
			5570	39.21	2.45	
			5575	36.97	2.19	
			5580	34.15	1.89	
			5585	33.80	1.74	
			5590	34.98	2.24	
			5595	36.53	2.04	
			5600	36.80	2.43	
			5605	36.45	2.28	
			5610	37.32	2.33	
			5615	37.06	2.38	
			5620	37.90	2.09	
			5625	38.15	2.28	
			5630	37.08	2.18	



			5635	37.10	2.41	
			5640	36.10	2.17	
			5645	37.70	2.40	
			5650	37.87	2.28	
			5655	36.55	2.26	
			5660	37.39	2.12	
			5665	38.10	2.36	
			5670	36.88	2.31	
			5675	37.91	2.19	
			5680	40.33	2.58	
			5685	42.44	2.94	
			5690	42.63	2.68	
			5695	42.57	2.84	
			5700	42.44	2.90	
			5705	44.10	2.79	
			5710	45.49	2.58	
			5715	45.77	2.76	
			5720	47.15	2.93	
			5725	47.18	2.80	
			5730	48.87	2.72	
			5735	48.52	2.99	
			5740	49.69	2.96	
			5745	49.30	2.93	
			5750	48.89	3.00	
			5755	48.26	2.59	
			5760	47.68	2.81	
			5765	48.70	2.86	
			5770	47.55	2.66	
			5775	46.66	2.82	
			5780	44.46	2.50	
			5785	45.07	2.82	
			5790	44.18	2.54	
			5795	44.75	2.58	
			5800	43.60	2.28	
			5805	41.92	2.41	
			5810	40.29	1.99	
			5815	39.29	2.07	
			5820	39.30	2.14	
			5825	38.98	2.05	
			5830	38.34	1.77	
			5835	38.03	1.82	
			5840	37.71	2.43	
			5845	38.25	2.20	



			5850	37.49	2.03	
			5855	36.09	1.98	
			5860	34.99	1.73	
			5865	33.79	1.74	
			5870	33.29	1.56	
			5875	33.13	1.45	
			5880	32.50	1.34	
			5885	32.18	0.94	
			5890	30.95	1.15	
			5895	31.07	1.31	
			5900	31.62	1.05	

Model	Test Item	Test State	Frequency (MHz)	Efficiency(%)	Gain(dBi)	Note
BTWDB01-2	3D GAIN	FS	2405	30.00	2.52	BTWDB01-2
			2410	32.21	2.51	
			2415	36.30	2.91	
			2420	40.62	3.16	
			2425	41.19	2.77	
			2430	42.79	2.58	
			2435	43.29	2.45	
			2440	40.99	2.10	
			2445	38.01	2.04	
			2450	36.42	2.00	
			2455	36.85	2.11	
			2460	37.76	2.12	
			2465	37.04	2.11	
			2470	37.42	1.97	
			2475	39.27	2.23	
			2480	38.87	2.00	
			5100	17.65	-2.17	
			5105	17.87	-2.08	
			5110	19.42	-1.64	
			5115	20.60	-1.08	
			5120	22.03	-0.83	
			5125	22.90	-0.67	
			5130	24.54	-0.54	
			5135	25.18	-0.50	
			5140	25.70	-0.05	
			5145	24.91	-0.15	
			5150	23.31	-0.33	



			5155	22.52	-0.78	
			5160	22.74	-0.46	
			5165	23.23	-0.61	
			5170	23.59	-0.30	
			5175	24.89	-0.15	
			5180	25.79	-0.04	
			5185	26.01	0.12	
			5190	26.61	0.08	
			5195	26.36	0.16	
			5200	26.54	-0.20	
			5205	25.35	-0.53	
			5210	25.54	0.02	
			5215	25.87	-0.39	
			5220	26.65	-0.15	
			5225	27.45	-0.24	
			5230	28.23	0.14	
			5235	28.28	0.14	
			5240	28.48	0.09	
			5245	28.99	0.33	
			5250	29.45	0.46	
			5255	29.58	0.47	
			5260	29.87	0.83	
			5265	30.66	0.63	
			5270	31.86	0.82	
			5275	32.72	0.90	
			5280	33.18	0.70	
			5285	32.12	0.72	
			5290	31.01	0.65	
			5295	30.08	0.32	
			5300	30.12	0.41	
			5305	28.87	0.52	
			5310	27.23	0.14	
			5315	29.03	0.36	
			5320	30.31	0.61	
			5325	31.64	0.94	
			5330	36.37	1.46	
			5335	39.31	1.82	
			5340	40.50	2.26	
			5345	39.60	2.01	
			5350	36.79	1.68	
			5355	35.79	1.43	
			5360	33.00	1.37	
			5365	33.87	1.44	
			5370	35.20	1.43	



			5375	35.68	1.61	
			5380	36.10	1.51	
			5385	36.16	1.65	
			5390	37.04	1.71	
			5395	36.11	1.36	
			5400	36.10	1.64	
			5405	36.31	1.75	
			5410	33.77	1.39	
			5415	32.77	1.31	
			5420	34.41	1.44	
			5425	35.66	1.73	
			5430	36.33	1.44	
			5435	36.20	1.56	
			5440	36.53	1.65	
			5445	36.29	1.75	
			5450	35.90	1.62	
			5455	35.70	1.62	
			5460	35.98	1.61	
			5465	35.16	1.48	
			5470	35.67	1.46	
			5475	37.21	1.98	
			5480	38.00	2.14	
			5485	38.73	2.03	
			5490	38.76	2.06	
			5495	38.71	2.04	
			5500	39.32	2.15	
			5505	39.29	2.05	
			5510	38.77	2.12	
			5515	39.30	2.14	
			5520	38.09	2.19	
			5525	37.53	1.93	
			5530	37.12	2.13	
			5535	37.70	2.16	
			5540	36.87	2.19	
			5545	37.09	2.48	
			5550	37.08	1.98	
			5555	38.05	2.65	
			5560	37.54	2.55	
			5565	36.89	2.10	
			5570	35.73	2.22	
			5575	34.29	2.23	
			5580	32.37	1.74	
			5585	32.96	1.93	
			5590	34.94	2.31	



			5595	35.99	2.51	
			5600	35.27	2.14	
			5605	35.69	2.44	
			5610	35.27	2.50	
			5615	34.39	2.20	
			5620	34.06	2.10	
			5625	33.76	2.47	
			5630	33.90	2.22	
			5635	34.70	2.46	
			5640	34.21	2.25	
			5645	36.22	2.57	
			5650	36.22	2.55	
			5655	34.50	2.11	
			5660	34.18	1.84	
			5665	33.05	1.63	
			5670	31.61	1.14	
			5675	32.15	1.60	
			5680	34.79	1.80	
			5685	37.26	2.23	
			5690	38.62	2.32	
			5695	38.56	2.06	
			5700	37.42	1.80	
			5705	39.40	2.11	
			5710	40.18	2.10	
			5715	40.03	2.00	
			5720	41.18	2.43	
			5725	40.77	2.14	
			5730	42.03	2.25	
			5735	41.90	2.35	
			5740	42.95	2.15	
			5745	42.62	2.19	
			5750	42.30	2.20	
			5755	42.33	2.10	
			5760	42.64	2.41	
			5765	43.74	2.37	
			5770	41.58	2.30	
			5775	40.30	1.98	
			5780	37.67	1.75	
			5785	38.10	1.85	
			5790	37.27	2.05	
			5795	38.25	1.85	
			5800	37.67	2.04	
			5805	36.90	1.88	
			5810	36.21	1.90	



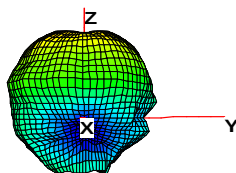
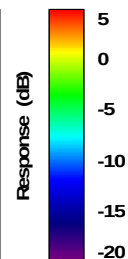
			5815	35.68	1.88	
			5820	34.71	1.78	
			5825	34.89	1.97	
			5830	34.21	1.74	
			5835	33.83	2.29	
			5840	33.26	2.06	
			5845	33.71	1.97	
			5850	33.56	1.95	
			5855	33.21	2.18	
			5860	33.04	1.80	
			5865	32.48	1.60	
			5870	31.88	1.52	
			5875	31.78	1.74	
			5880	30.75	1.49	
			5885	29.68	1.43	
			5890	28.20	0.79	
			5895	28.47	0.70	
			5900	28.99	1.18	

1.2 3-D Pattern Plots

BTWDB01-1

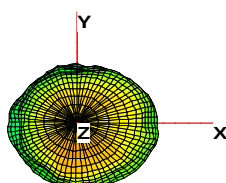
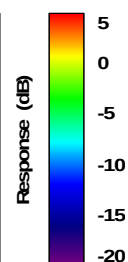
Total

Azimuth = 88.9
Elevation = -2.2
Roll = -90.2



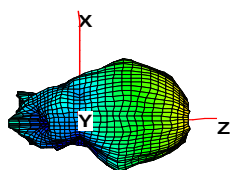
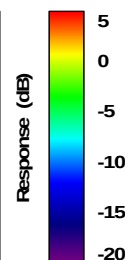
Total

Azimuth = 0.0
Elevation = 0.0
Roll = 0.0



Total

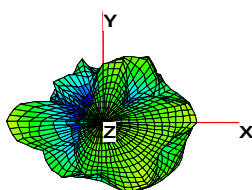
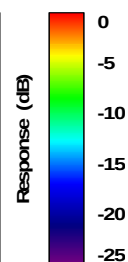
Azimuth = -13.5
Elevation = -86.3
Roll = 77.2



2405-2800M 3D GAIN

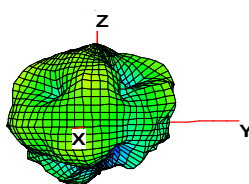
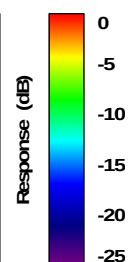
Total

Azimuth = 0.0
Elevation = 0.0
Roll = 0.0



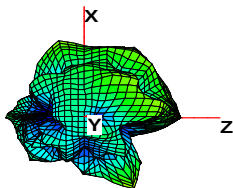
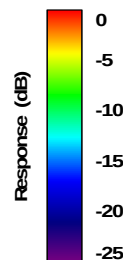
Total

Azimuth = 89.1
Elevation = -9.2
Roll = -87.4



Total

Azimuth = 62.0
Elevation = -88.7
Roll = 151.9

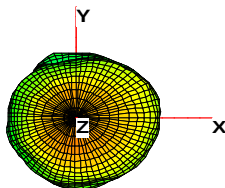
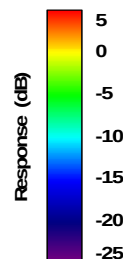


5100-5900M 3D GAIN

BTWDB01-2

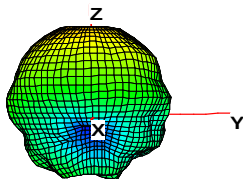
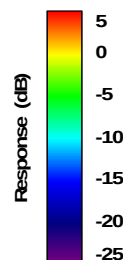
Total

Azimuth = 0.0
Elevation = 0.0
Roll = 0.0



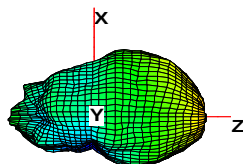
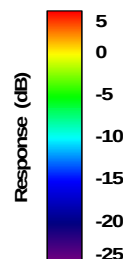
Total

Azimuth = 88.5
Elevation = -0.8
Roll = -88.4



Total

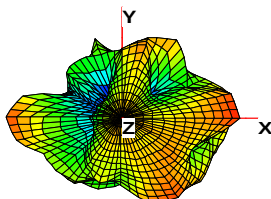
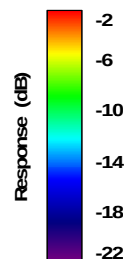
Azimuth = -19.1
Elevation = -85.6
Roll = 70.5



2405-2800M 3D GAIN

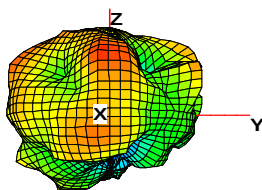
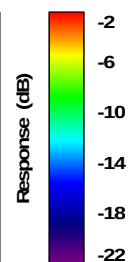
Total

Azimuth = 0.0
Elevation = 0.0
Roll = 0.0



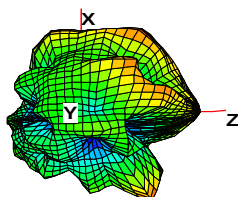
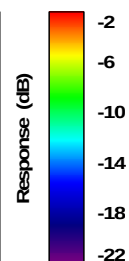
Total

Azimuth = 88.9
Elevation = -5.4
Roll = -95.2



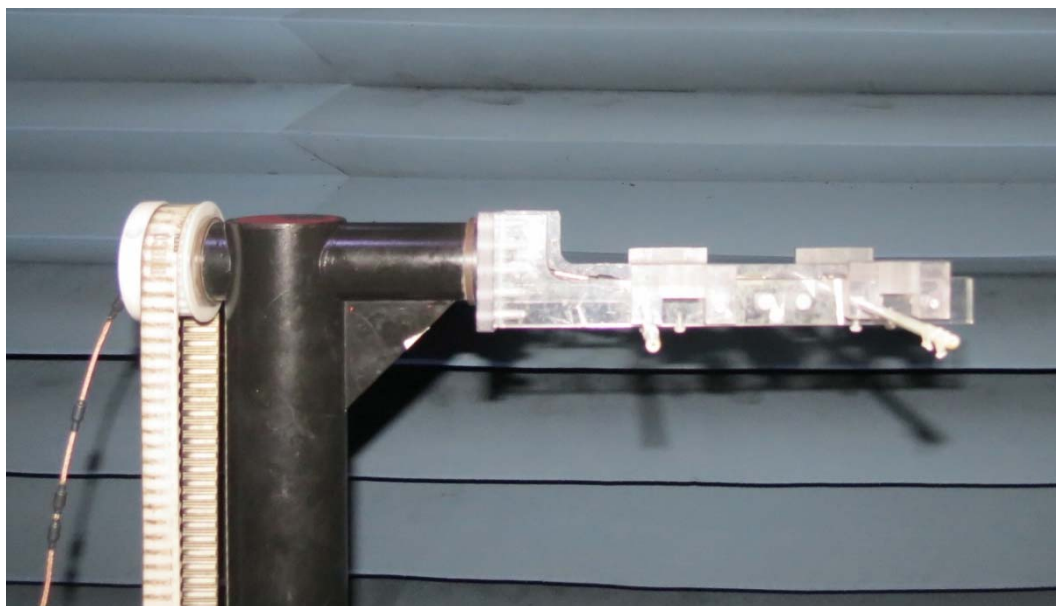
Total

Azimuth = -54.2
Elevation = -80.4
Roll = 38.8



5100-5900M 3D GAIN

1.3 Test Configuration



Picture 1 Test Setup