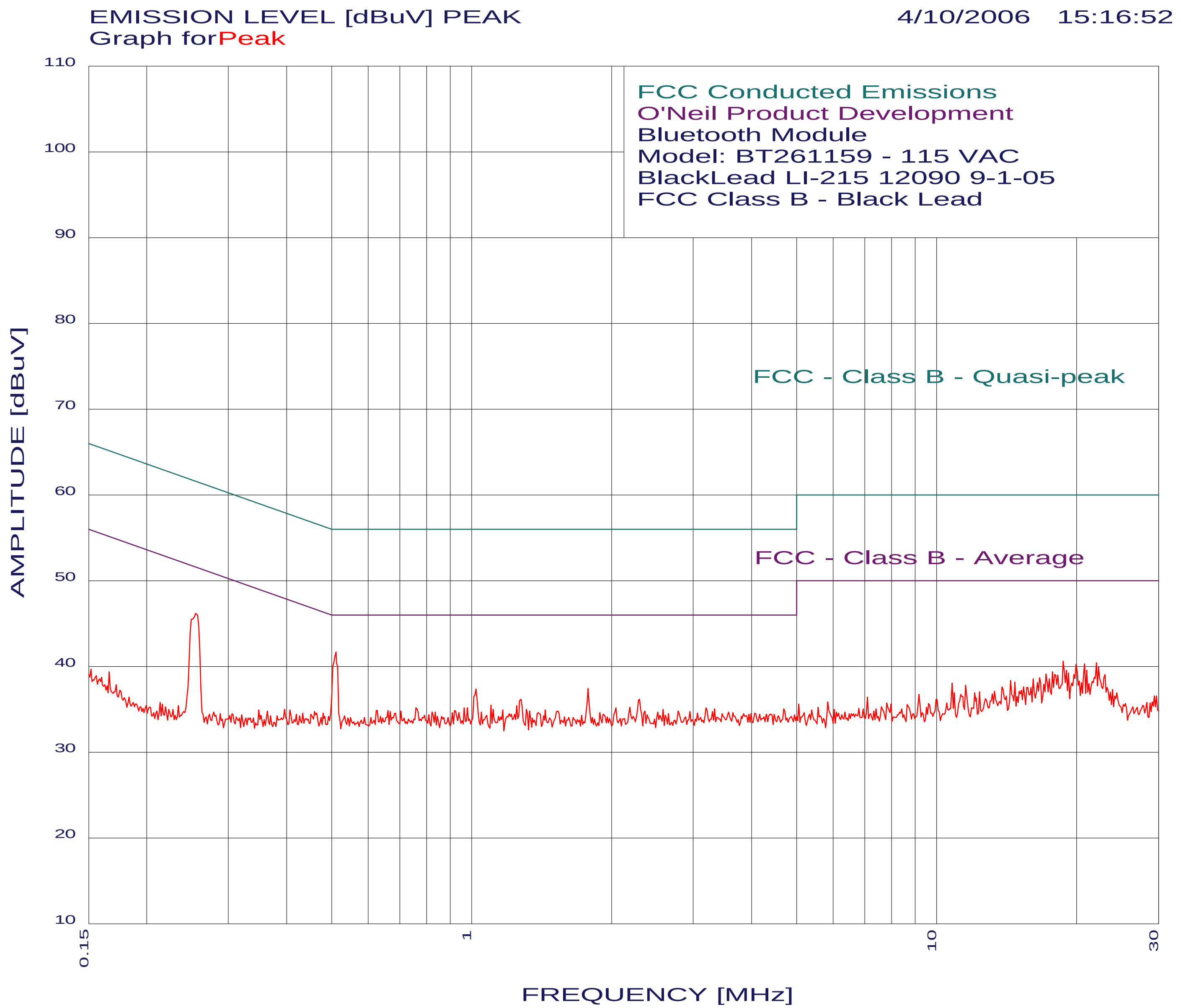
APPENDIX E

DATA SHEETS

CONDUCTED EMISISONS

DATA SHEETS


EMISSION LEVEL [dBuV] PEAK
Graph forPeak
4/10/2006 15:16:52
FCC Conducted Emissions
O'Neil Product Development
Bluetooth Module
Model: BT261159 - 115 VAC
BlackLead LI-215 12090 9-1-05
FCC Class B - Black Lead
FCC - Class B - Quasi-peak
FCC - Class B - Average
AMPLITUDE [dBuV]
110
100
90
80
70
60
50
40
30
20
10
0.15
1
10
30
FREQUENCY [MHz]
COMPATIBLE ELECTRONICS

COMPATIBLE ELECTRONICS

4/10/2006 15:16:52

O'Neil Product Development
Bluetooth Module
Model: BT261159 - 115 VAC
FCC Class B - Black Lead
TEST ENGINEER : Kyle Fujimoto

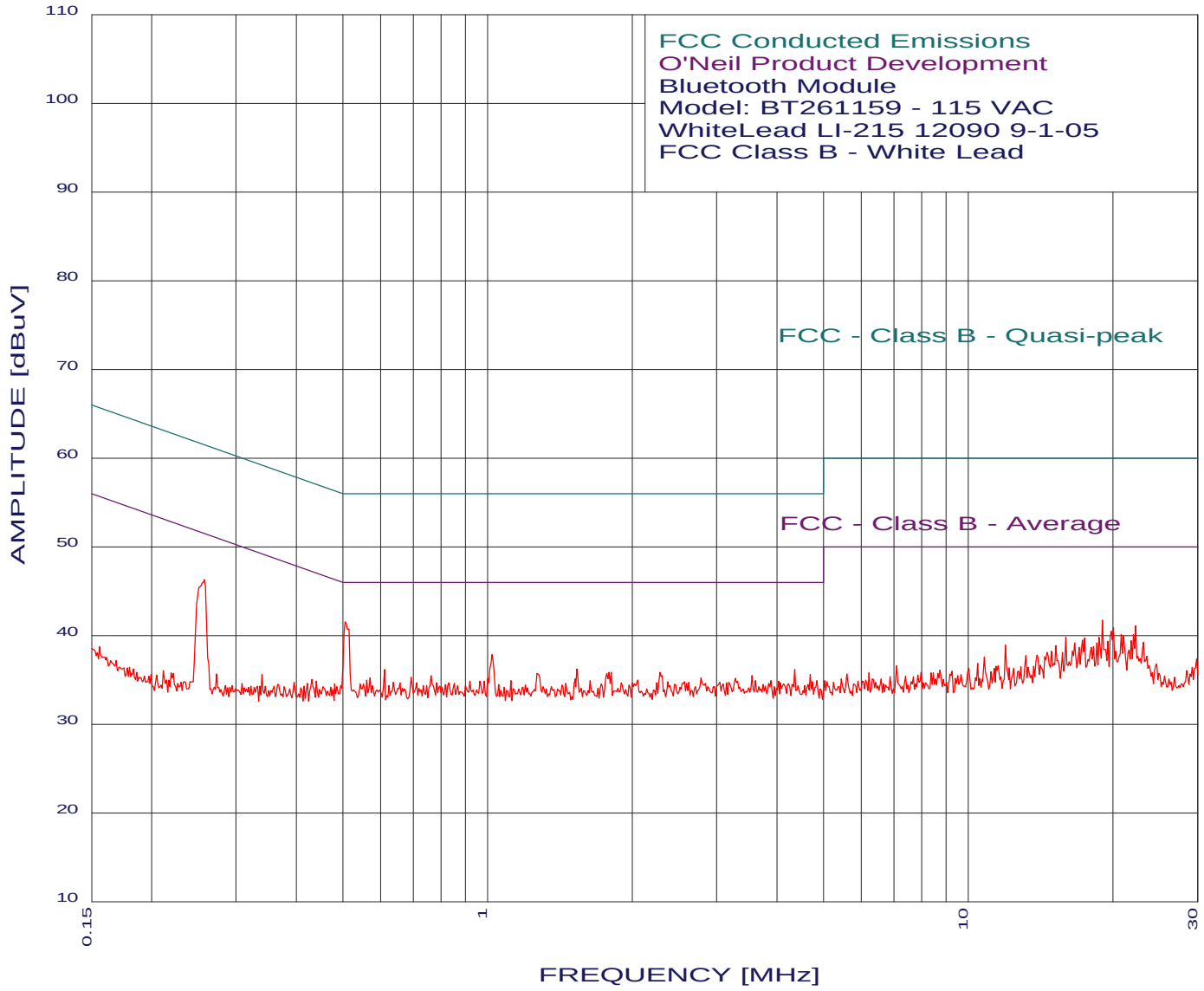
---

13 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 3.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.510	41.64	46.00	-4.36
2	0.255	46.18	51.60	-5.41
3	1.781	37.41	46.00	-8.59
4	1.021	37.37	46.00	-8.63
5	18.724	40.61	50.00	-9.39
6	22.076	40.39	50.00	-9.61
7	20.825	40.26	50.00	-9.74
8	19.950	40.20	50.00	-9.80
9	1.276	36.18	46.00	-9.82
10	2.298	36.15	46.00	-9.85
11	10.792	38.02	50.00	-11.98
12	11.561	37.77	50.00	-12.23
13	9.160	36.70	50.00	-13.30

EMISSION LEVEL [dBuV] PEAK
Graph forPeak

4/10/2006 15:28:15



COMPATIBLE ELECTRONICS

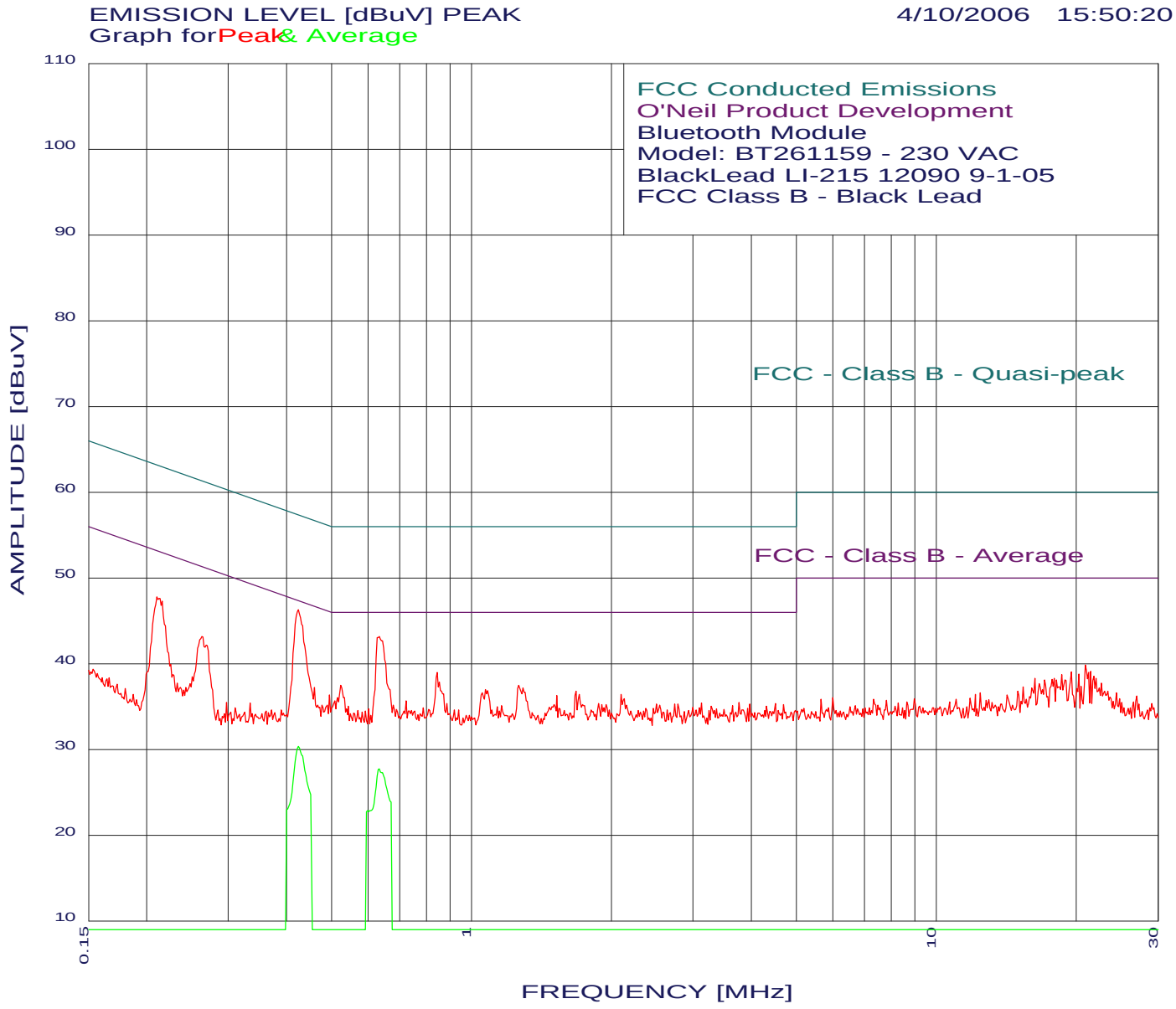
4/10/2006 15:28:15

O'Neil Product Development
Bluetooth Module
Model: BT261159 - 115 VAC
FCC Class B - White Lead
TEST ENGINEER : Kyle Fujimoto

---

18 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 3.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.505	41.54	46.00	-4.46
2	0.258	46.28	51.51	-5.22
3	1.021	37.87	46.00	-8.13
4	19.031	41.69	50.00	-8.31
5	22.310	41.12	50.00	-8.88
6	20.059	40.84	50.00	-9.16
7	1.536	36.21	46.00	-9.79
8	4.361	36.15	46.00	-9.85
9	0.611	36.15	46.00	-9.85
10	20.825	40.10	50.00	-9.90
11	15.976	39.80	50.00	-10.20
12	17.478	39.69	50.00	-10.31
13	11.940	38.93	50.00	-11.07
14	15.229	38.85	50.00	-11.15
15	13.197	37.72	50.00	-12.28
16	10.792	37.56	50.00	-12.44
17	29.851	37.36	50.00	-12.64
18	7.100	36.56	50.00	-13.44



COMPATIBLE ELECTRONICS

COMPATIBLE ELECTRONICS

4/10/2006 15:50:20

O'Neil Product Development
Bluetooth Module
Model: BT261159 - 230 VAC
FCC Class B - Black Lead
TEST ENGINEER : Kyle Fujimoto

---

50 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.424	46.31	47.37	-1.06*
2	0.634	43.15	46.00	-2.85*
3	0.211	47.80	53.18	-5.38
4	0.844	38.96	46.00	-7.04
5	0.263	43.18	51.33	-8.15
6	1.262	37.48	46.00	-8.52
7	0.524	37.44	46.00	-8.56
8	1.072	36.97	46.00	-9.03
9	1.680	36.81	46.00	-9.19
10	0.459	37.22	46.71	-9.49
11	2.100	36.43	46.00	-9.57
12	1.708	36.41	46.00	-9.59
13	1.528	36.30	46.00	-9.70
14	0.494	36.34	46.09	-9.76
15	20.935	39.85	50.00	-10.15
16	0.724	35.65	46.00	-10.35
17	3.761	35.48	46.00	-10.52
18	3.124	35.42	46.00	-10.58
19	0.885	35.36	46.00	-10.64
20	4.504	35.33	46.00	-10.67
21	1.879	35.32	46.00	-10.68
22	3.966	35.30	46.00	-10.70
23	2.781	35.29	46.00	-10.71
24	2.736	35.29	46.00	-10.71
25	2.501	35.27	46.00	-10.73
26	4.696	35.24	46.00	-10.76
27	1.950	35.22	46.00	-10.78
28	21.490	39.12	50.00	-10.88
29	1.160	35.08	46.00	-10.92
30	3.644	35.07	46.00	-10.93
31	0.544	35.04	46.00	-10.96
32	3.277	35.04	46.00	-10.96
33	4.316	35.02	46.00	-10.98
34	19.541	39.02	50.00	-10.98
35	1.136	34.98	46.00	-11.02
36	2.995	34.91	46.00	-11.09
37	0.788	34.86	46.00	-11.14
38	1.544	34.80	46.00	-11.20
39	3.924	34.79	46.00	-11.21
40	20.278	38.78	50.00	-11.22
41	2.371	34.76	46.00	-11.24
42	0.601	34.75	46.00	-11.25
43	3.365	34.74	46.00	-11.26
44	18.622	38.70	50.00	-11.30
45	3.492	34.65	46.00	-11.35
46	1.810	34.61	46.00	-11.39
47	2.637	34.58	46.00	-11.42
48	0.939	34.56	46.00	-11.44
49	0.919	34.56	46.00	-11.44
50	4.980	34.56	46.00	-11.44

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*Please See the Average Readings on the Next Page and on the Plot

COMPATIBLE ELECTRONICS

4/10/2006 15:50:20

O'Neil Product Development
Bluetooth Module
Model: BT261159 - 230 VAC
FCC Class B - Black Lead
TEST ENGINEER : Kyle Fujimoto

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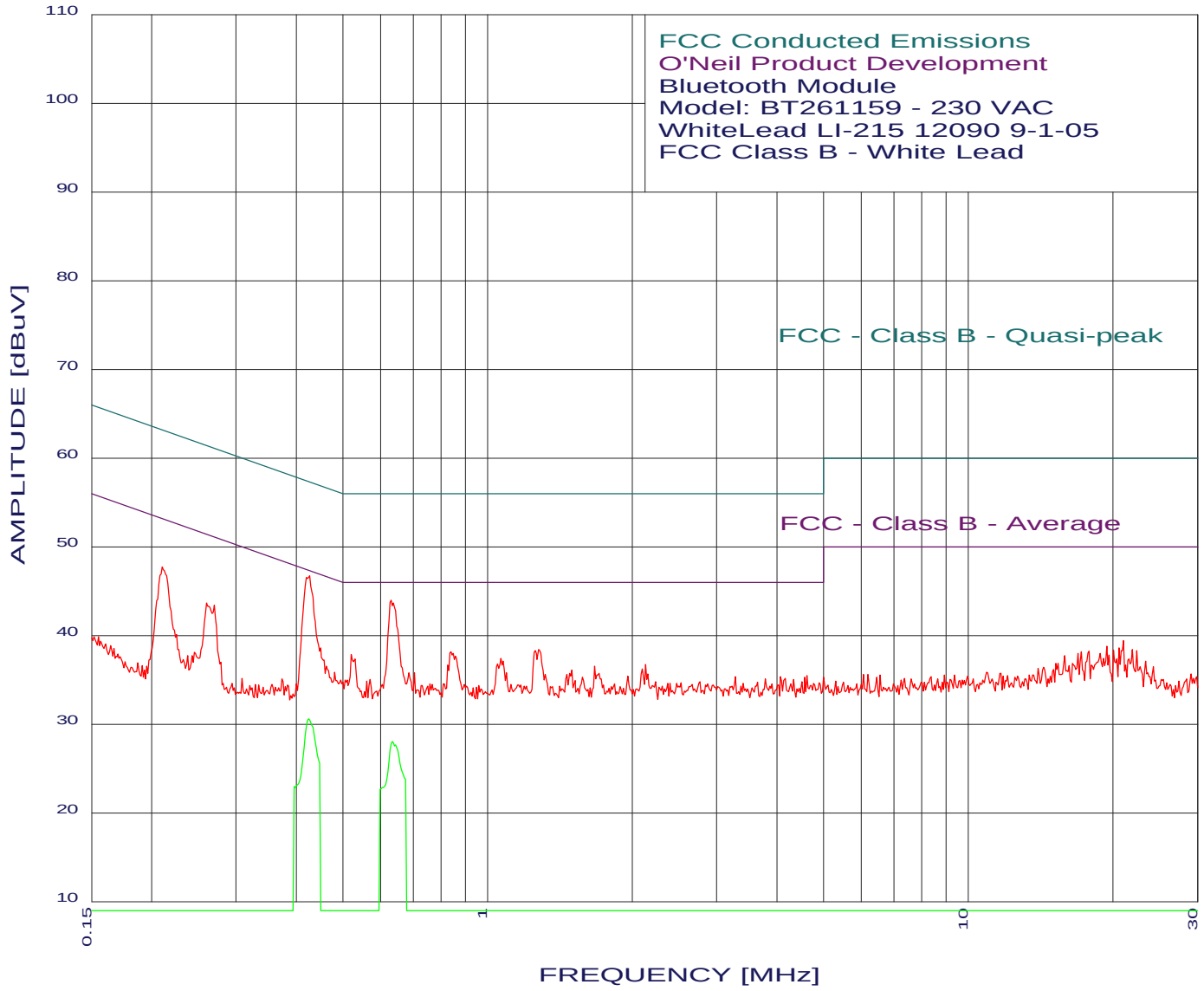
4 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 0.00 dB, Curve : Average

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.424	30.37	47.37	-17.00
2	0.634	27.69	46.00	-18.31
3	0.644	27.31	46.00	-18.69
4	0.598	22.84	46.00	-23.16

EMISSION LEVEL [dBuV] PEAK 4/10/2006 15:40:51
Graph forPeak& Average



COMPATIBLE ELECTRONICS

COMPATIBLE ELECTRONICS

4/10/2006 15:40:51

O'Neil Product Development
Bluetooth Module
Model: BT261159 - 230 VAC
FCC Class B - White Lead
TEST ENGINEER : Kyle Fujimoto

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50 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.426	46.71	47.33	-0.62*
2	0.631	43.95	46.00	-2.05*
3	0.211	47.70	53.18	-5.48
4	1.276	38.39	46.00	-7.61
5	0.260	43.68	51.42	-7.74
6	0.839	38.16	46.00	-7.84
7	0.521	37.84	46.00	-8.16
8	1.066	37.38	46.00	-8.62
9	2.134	36.75	46.00	-9.25
10	1.671	36.51	46.00	-9.49
11	2.100	36.24	46.00	-9.76
12	1.496	36.10	46.00	-9.90
13	0.705	35.75	46.00	-10.25
14	0.686	35.75	46.00	-10.25
15	1.464	35.60	46.00	-10.40
16	0.481	35.83	46.32	-10.48
17	4.624	35.46	46.00	-10.54
18	1.960	35.43	46.00	-10.57
19	21.044	39.39	50.00	-10.61
20	3.277	35.36	46.00	-10.64
21	4.071	35.33	46.00	-10.67
22	1.577	35.31	46.00	-10.69
23	4.576	35.26	46.00	-10.74
24	4.159	35.14	46.00	-10.86
25	3.781	35.10	46.00	-10.90
26	4.339	35.05	46.00	-10.95
27	0.570	35.05	46.00	-10.95
28	0.561	34.85	46.00	-11.15
29	2.766	34.81	46.00	-11.19
30	19.439	38.78	50.00	-11.22
31	4.504	34.76	46.00	-11.24
32	3.644	34.69	46.00	-11.31
33	2.527	34.68	46.00	-11.32
34	20.607	38.61	50.00	-11.39
35	2.397	34.57	46.00	-11.43
36	2.371	34.57	46.00	-11.43
37	3.401	34.57	46.00	-11.43
38	0.759	34.56	46.00	-11.44
39	1.840	34.52	46.00	-11.48
40	2.870	34.52	46.00	-11.48
41	21.959	38.43	50.00	-11.57
42	4.029	34.43	46.00	-11.57
43	0.958	34.37	46.00	-11.63
44	0.731	34.36	46.00	-11.64
45	20.059	38.34	50.00	-11.66
46	22.428	38.29	50.00	-11.71
47	17.859	38.22	50.00	-11.78
48	17.205	38.17	50.00	-11.83
49	0.948	34.17	46.00	-11.83
50	1.637	34.11	46.00	-11.89

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*Please See the Average Readings on the Next Page and on the Plot

COMPATIBLE ELECTRONICS

4/10/2006 15:40:51

O'Neil Product Development
Bluetooth Module
Model: BT261159 - 230 VAC
FCC Class B - White Lead
TEST ENGINEER : Kyle Fujimoto

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4 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 0.00 dB, Curve : Average

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.424	30.58	47.37	-16.79
2	0.634	28.05	46.00	-17.95
3	0.644	27.64	46.00	-18.36
4	0.396	22.95	47.95	-25.00

RADIATED EMISSIONS

DATA SHEETS

FCC 15.247
O' Neil Product Development
Bluetooth Module
Model: BT261159

Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

Low Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	50.20	H	74	-23.8	Peak	1.77	135	
4804	30.20	H	54	-23.8	Avg	1.77	135	
7206	45.44	H	74	-28.56	Peak	2.39	90	
7206	25.44	H	54	-28.56	Avg	2.39	90	
9608	48.42	H	--	--	Peak	2.39	225	Not in Restricted Band
9608	24.42	H	--	--	Avg	2.39	225	Not in Restricted Band
12010		H	74	-74	Peak			No Emissions
12010		H	54	-54	Avg			Detected
14412		H	74	-74	Peak			No Emissions
14412		H	54	-54	Avg			Detected
16814		H	--	--	Peak			Not in Restricted Band
16814		H	--	--	Avg			Not in Restricted Band
19216		H	74	-74	Peak			No Emissions
19216		H	54	-54	Avg			Detected
21618		H	74	-74	Peak			No Emissions
21618		H	54	-54	Avg			Detected
24020		H	74	-74	Peak			No Emissions
24020		H	54	-54	Avg			Detected

FCC 15.247
O' Neil Product Development
Bluetooth Module
Model: BT261159

Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

Low Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	46.66	V	74	-27.34	Peak	1.46	135	
4804	26.66	V	54	-27.34	Avg	1.46	135	
7206	43.51	V	74	-30.49	Peak	2.18	135	
7206	23.51	V	54	-30.49	Avg	2.18	135	
9608	48.01	V	--	--	Peak	2.18	180	Not in Restricted Band
9608	28.01	V	--	--	Avg	2.18	180	Not in Restricted Band
12010		V	74	-74	Peak			No Emissions
12010		V	54	-54	Avg			Detected
14412		V	74	-74	Peak			No Emissions
14412		V	54	-54	Avg			Detected
16814		V	--	--	Peak			Not in Restricted Band
16814		V	--	--	Avg			Not in Restricted Band
19216		V	74	-74	Peak			No Emissions
19216		V	54	-54	Avg			Detected
21618		V	74	-74	Peak			No Emissions
21618		V	54	-54	Avg			Detected
24020		V	74	-74	Peak			No Emissions
24020		V	54	-54	Avg			Detected

FCC 15.247
O' Neil Product Development
Bluetooth Module
Model: BT261159

Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

Low Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	44.31	H	74	-29.69	Peak	1.5	225	
4804	24.31	H	54	-29.69	Avg	1.5	225	
7206	48.87	H	74	-25.13	Peak	2.44	135	
7206	28.87	H	54	-25.13	Avg	2.44	135	
9608	50.72	H	--	--	Peak	2.44	135	Not in Restricted Band
9608	30.72	H	--	--	Avg	2.44	135	Not in Restricted Band
12010		H	74	-74	Peak			No Emissions
12010		H	54	-54	Avg			Detected
14412		H	74	-74	Peak			No Emissions
14412		H	54	-54	Avg			Detected
16814		H	--	--	Peak			No Emissions
16814		H	--	--	Avg			Detected
19216		H	74	-74	Peak			No Emissions
19216		H	54	-54	Avg			Detected
21618		H	74	-74	Peak			No Emissions
21618		H	54	-54	Avg			Detected
24020		H	74	-74	Peak			No Emissions
24020		H	54	-54	Avg			Detected

FCC 15.247
O' Neil Product Development
Bluetooth Module
Model: BT261159

Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

Low Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	49.14	V	74	-24.86	Peak	1.64	225	
4804	29.14	V	54	-24.86	Avg	1.64	225	
7206	47.33	V	74	-26.67	Peak	2.51	225	
7206	27.33	V	54	-26.67	Avg	2.51	225	
9608		V	--	--	Peak			No Emission
9608		V	--	--	Avg			Detected
12010		V	74	-74	Peak			No Emission
12010		V	54	-54	Avg			Detected
14412		V	74	-74	Peak			No Emission
14412		V	54	-54	Avg			Detected
16814		V	--	--	Peak			No Emission
16814		V	--	--	Avg			Detected
19216		V	74	-74	Peak			No Emission
19216		V	54	-54	Avg			Detected
21618		V	74	-74	Peak			No Emission
21618		V	54	-54	Avg			Detected
24020		V	74	-74	Peak			No Emission
24020		V	54	-54	Avg			Detected

FCC 15.247
O' Neil Product Development
Bluetooth Module
Model: BT261159

Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

Low Channe

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	50.14	H	74	-23.86	Peak	1.73	315	
4804	30.14	H	54	-23.86	Avg	1.73	315	
7206	48.02	H	74	-25.98	Peak	2.33	180	
7206	28.02	H	54	-25.98	Avg	2.33	180	
9608	50.33	H	--	--	Peak	2.33	270	Not in Restricted Band
9608	30.33	H	--	--	Avg	2.33	270	Not in Restricted Band
12010		H	74	-74	Peak			No Emission
12010		H	54	-54	Avg			Detected
14412		H	74	-74	Peak			No Emission
14412		H	54	-54	Avg			Detected
16814		H	--	--	Peak			Not in Restricted Band
16814		H	--	--	Avg			Not in Restricted Band
19216		H	74	-74	Peak			No Emission
19216		H	54	-54	Avg			Detected
21618		H	74	-74	Peak			No Emission
21618		H	54	-54	Avg			Detected
24020		H	74	-74	Peak			No Emission
24020		H	54	-54	Avg			Detected

FCC 15.247
O' Neil Product Development
Bluetooth Module
Model: BT261159

Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

Low Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4804	43.95	V	74	-30.05	Peak	1.82	180	
4804	23.95	V	54	-30.05	Avg	1.82	180	
7206	39.59	V	74	-34.41	Peak	1.82	180	
7206	19.59	V	54	-34.41	Avg	1.82	180	
9608	42.32	V	--	--	Peak	1.82	270	Not in Restricted Band
9608	22.32	V	--	--	Avg	1.82	270	Not in Restricted Band
12010		V	74	-74	Peak			No Emission
12010		V	54	-54	Avg			Detected
14412		V	74	-74	Peak			No Emission
14412		V	54	-54	Avg			Detected
16814		V	--	--	Peak			Not in Restricted Band
16814		V	--	--	Avg			Not in Restricted Band
19216		V	74	-74	Peak			No Emission
19216		V	54	-54	Avg			Detected
21618		V	74	-74	Peak			No Emission
21618		V	54	-54	Avg			Detected
24020		V	74	-74	Peak			No Emission
24020		V	54	-54	Avg			Detected

FCC 15.247
O' Neil Product Development
Bluetooth Module
Model: BT261159

Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4882	53.42	H	74	-20.58	Peak	1.38	225	
4882	33.42	H	54	-20.58	Avg	1.38	225	
7323	48.17	H	74	-25.83	Peak	1.65	315	
7323	28.17	H	54	-25.83	Avg	1.65	315	
9764	49.58	H	--	--	Peak	2.39	90	Not in Restricted Band
9764	29.58	H	--	--	Avg	2.39	90	Not in Restricted Band
12205		H	74	-74	Peak			
12205		H	54	-54	Avg			
14646		H	74	-74	Peak			
14646		H	54	-54	Avg			
17087		H	--	--	Peak			Not in Restricted Band
17087		H	--	--	Avg			Not in Restricted Band
19528		H	74	-74	Peak			
19528		H	54	-54	Avg			
21969		H	74	-74	Peak			
21969		H	54	-54	Avg			
24410		H	74	-74	Peak			
24410		H	54	-54	Avg			

FCC 15.247
O' Neil Product Development
Bluetooth Module
Model: BT261159

Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4882	44.47	H	74	-29.53	Peak	1.67	135	
4882	24.47	H	54	-29.53	Avg	1.67	135	
7323	45.79	V	74	-28.21	Peak	1.91	315	
7323	25.79	V	54	-28.21	Avg	1.91	315	
9764	48.09	V	--	--	Peak	1.91	225	Not in Restricted Band
9764	28.09	V	--	--	Avg	1.91	225	Not in Restricted Band
12205		V	74	-74	Peak			No Emissions
12205		V	54	-54	Avg			Detected
14646		V	74	-74	Peak			No Emissions
14646		V	54	-54	Avg			Detected
17087		V	--	--	Peak			Not in Restricted Band
17087		V	--	--	Avg			Not in Restricted Band
19528		V	74	-74	Peak			No Emissions
19528		V	54	-54	Avg			Detected
21969		V	74	-74	Peak			No Emissions
21969		V	54	-54	Avg			Detected
24410		V	74	-74	Peak			No Emissions
24410		V	54	-54	Avg			Detected

FCC 15.247
O' Neil Product Development
Bluetooth Module
Model: BT261159

Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4882	47.34	H	74	-26.66	Peak	2.84	180	
4882	27.34	H	54	-26.66	Avg	2.84	180	
7323	46.35	H	74	-27.65	Peak	1.71	180	
7323	26.35	H	54	-27.65	Avg	1.71	180	
9764	40.03	H	--	--	Peak	1.71	135	Not in Restricted Band
9764	20.03	H	--	--	Avg	1.71	135	Not in Restricted Band
12205		H	74	-74	Peak			No Emissions
12205		H	54	-54	Avg			Detected
14646		H	74	-74	Peak			No Emissions
14646		H	54	-54	Avg			Detected
17087		H	--	--	Peak			Not in Restricted Band
17087		H	--	--	Avg			Not in Restricted Band
19528		H	74	-74	Peak			No Emissions
19528		H	54	-54	Avg			Detected
21969		H	74	-74	Peak			No Emissions
21969		H	54	-54	Avg			Detected
24410		H	74	-74	Peak			No Emissions
24410		H	54	-54	Avg			Detected

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Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4882	47.22	V	74	-26.78	Peak	1.59	180	
4882	27.22	V	54	-26.78	Avg	1.59	180	
7323	46.66	V	74	-27.34	Peak	1.96	135	
7323	26.66	V	54	-27.34	Avg	1.96	135	
9764	48.17	V	--	--	Peak	1.88	225	Not in Restricted Band
9764	28.17	V	--	--	Avg	1.88	225	Not in Restricted Band
12205		V	74	-74	Peak			No Emissions
12205		V	54	-54	Avg			Detected
14646		V	74	-74	Peak			No Emissions
14646		V	54	-54	Avg			Detected
17087		V	--	--	Peak			Not in Restricted Band
17087		V	--	--	Avg			Not in Restricted Band
19528		V	74	-74	Peak			No Emissions
19528		V	54	-54	Avg			Detected
21969		V	74	-74	Peak			No Emissions
21969		V	54	-54	Avg			Detected
24410		V	74	-74	Peak			No Emissions
24410		V	54	-54	Avg			Detected

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Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

Middle Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4882	44.99	H	74	-29.01	Peak	2.13	135	
4882	24.99	H	54	-29.01	Avg	2.13	135	
7323	37.53	H	74	-36.47	Peak	1.73	45	
7323	17.53	H	54	-36.47	Avg	1.73	45	
9764	42.19	H	--	--	Peak	1.73	135	Not in Restricted Band
9764	24.99	H	--	--	Avg	1.73	135	Not in Restricted Band
12205		H	74	-74	Peak			No Emisson
12205		H	54	-54	Avg			Detected
14646		H	74	-74	Peak			No Emisson
14646		H	54	-54	Avg			Detected
17087		H	--	--	Peak			Not in Restricted Band
17087		H	--	--	Avg			Not in Restricted Band
19528		H	74	-74	Peak			No Emisson
19528		H	54	-54	Avg			Detected
21969		H	74	-74	Peak			No Emisson
21969		H	54	-54	Avg			Detected
24410		H	74	-74	Peak			No Emisson
24410		H	54	-54	Avg			Detected

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Middle Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4882	47.26	V	74	-26.74	Peak	2.73	135	
4882	27.26	V	54	-26.74	Avg	2.73	135	
7323	48.26	V	74	-25.74	Peak	1.99	135	
7323	28.26	V	54	-25.74	Avg	1.99	135	
9764	50.89	V	--	--	Peak	1.99	180	Not in Restricted Band
9764	30.89	V	--	--	Avg	1.99	180	Not in Restricted Band
12205		V	74	-74	Peak			No Emisson
12205		V	54	-54	Avg			Detected
14646		V	74	-74	Peak			No Emisson
14646		V	54	-54	Avg			Detected
17087		V	--	--	Peak			Not in Restricted Band
17087		V	--	--	Avg			Not in Restricted Band
19528		V	74	-74	Peak			No Emisson
19528		V	54	-54	Avg			Detected
21969		V	74	-74	Peak			No Emisson
21969		V	54	-54	Avg			Detected
24410		V	74	-74	Peak			No Emisson
24410		V	54	-54	Avg			Detected

FCC 15.247 and FCC Class B

O' Neil Product Development
Bluetooth Module
Model: BT261159

Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

Receiver Portion -- Middle Channel -- Vertical and Horizontal Polarization

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4880	41.60	H	74	-32.4	Peak	2.83	45	X-Axis
4880	33.37	H	54	-20.63	Avg	2.83	45	X-Axis
4880	46.36	V	74	-27.64	Peak	2.77	225	X-Axis
4880	41.87	V	54	-12.13	Avg	2.77	225	X-Axis
4880	45.93	H	74	-28.07	Peak	1.87	135	Z-Axis
4880	25.93	H	54	-28.07	Avg	1.87	135	Z-Axis
4880	45.77	V	74	-28.23	Peak	1.71	225	Z-Axis
4880	40.34	V	54	-13.66	Avg	1.71	225	Z-Axis
4880	46.43	H	74	-27.57	Peak	2.21	135	Y-Axis
4880	26.43	H	54	-27.57	Avg	2.21	135	Y-Axis
4880	47.82	V	74	-26.18	Peak	1.76	180	Y-Axis
4880	27.82	V	54	-26.18	Avg	1.76	180	Y-Axis
								No Emissions
								Discovered Above 4880 MHz
								for the Receive Mode

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O' Neil Product Development
Bluetooth Module
Model: BT261159

Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

High Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	53.05	H	74	-20.95	Peak	2.81	180	
4960	33.05	H	54	-20.95	Avg	2.81	180	
7440	48.87	H	74	-25.13	Peak	2.65	315	
7440	28.87	H	54	-25.13	Avg	2.65	315	
9920	48.74	H	--	--	Peak	1.91	225	Not in Restricted Band
9920	28.74	H	--	--	Avg	1.91	225	Not in Restricted Band
12400	52.50	H	74	-21.5	Peak	1.91	225	No Emissions
12400	32.50	H	54	-21.5	Avg	1.91	225	Detected
14880		H	74	-74	Peak			No Emissions
14880		H	54	-54	Avg			Detected
17360		H	--	--	Peak			Not in Restricted Band
17360		H	--	--	Avg			Not in Restricted Band
19840		H	74	-74	Peak			No Emissions
19840		H	54	-54	Avg			Detected
22320		H	74	-74	Peak			No Emissions
22320		H	54	-54	Avg			Detected
24800		H	74	-74	Peak			No Emissions
24800		H	54	-54	Avg			Detected

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Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

High Channel - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	46.57	V	74	-27.43	Peak	2.4	225	
4960	26.57	V	54	-27.43	Avg	2.4	225	
7440	48.50	V	74	-25.5	Peak	1.77	180	
7440	28.50	V	54	-25.5	Avg	1.77	180	
9920	48.47	V	--	--	Peak	1.77	225	Not in Restricted Band
9920	28.47	V	--	--	Avg	1.77	225	Not in Restricted Band
12400		V	74	-74	Peak			No Emissions
12400		V	54	-54	Avg			Detected
14880		V	74	-74	Peak			No Emissions
14880		V	54	-54	Avg			Detected
17360		V	--	--	Peak			Not in Restricted Band
17360		V	--	--	Avg			Not in Restricted Band
19840		V	74	-74	Peak			No Emissions
19840		V	54	-54	Avg			Detected
22320		V	74	-74	Peak			No Emissions
22320		V	54	-54	Avg			Detected
24800		V	74	-74	Peak			No Emissions
24800		V	54	-54	Avg			Detected

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Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

High Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	45.43	H	74	-28.57	Peak	2.73	135	No Emissions
4960	25.23	H	54	-28.77	Avg	2.73	135	Detected
7440	37.46	H	74	-36.54	Peak	1.34	225	No Emissions
7440	17.46	H	54	-36.54	Avg	1.34	225	Detected
9920		H	--	--	Peak			Not in Restricted Band
9920		H	--	--	Avg			Not in Restricted Band
12400		H	74	-74	Peak			No Emissions
12400		H	54	-54	Avg			Detected
14880		H	74	-74	Peak			No Emissions
14880		H	54	-54	Avg			Detected
17360		H	--	--	Peak			Not in Restricted Band
17360		H	--	--	Avg			Not in Restricted Band
19840		H	74	-74	Peak			No Emissions
19840		H	54	-54	Avg			Detected
22320		H	74	-74	Peak			No Emissions
22320		H	54	-54	Avg			Detected
24800		H	74	-74	Peak			No Emissions
24800		H	54	-54	Avg			Detected

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Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

High Channel - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	46.56	V	74	-27.437	Peak	2.34	135	
4960	26.56	V	54	-27.44	Avg	2.34	135	
7440	38.07	V	74	-35.93	Peak	1.52	225	
7440	18.07	V	54	-35.93	Avg	1.52	225	
9920	40.46	V	--	--	Peak	1.51	135	Not in Restricted Band
9920	20.46	V	--	--	Avg	1.51	135	Not in Restricted Band
12400		V	74	-74	Peak			
12400		V	54	-54	Avg			
14880		V	74	-74	Peak			
14880		V	54	-54	Avg			
17360		V	--	--	Peak			Not in Restricted Band
17360		V	--	--	Avg			Not in Restricted Band
19840		V	74	-74	Peak			
19840		V	54	-54	Avg			
22320		V	74	-74	Peak			
22320		V	54	-54	Avg			
24800		V	74	-74	Peak			
24800		V	54	-54	Avg			

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Date: 04/07/06
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Tested By: Kyle Fujimoto

High Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	46.76	H	74	-27.24	Peak	2.46	270	
4960	26.76	H	54	-27.24	Avg	2.46	270	
7440	40.01	H	74	-33.99	Peak	2.02	180	
7440	20.01	H	54	-33.99	Avg	2.02	180	
9920	41.94	H	--	--	Peak	1.86	135	Not in Restricted Band
9920	21.94	H	--	--	Avg	1.86	135	Not in Restricted Band
12400		H	74	-74	Peak			No Emissions
12400		H	54	-54	Avg			Detected
14880		H	74	-74	Peak			No Emissions
14880		H	54	-54	Avg			Detected
17360		H	--	--	Peak			Not in Restricted Band
17360		H	--	--	Avg			Not in Restricted Band
19840		H	74	-74	Peak			No Emissions
19840		H	54	-54	Avg			Detected
22320		H	74	-74	Peak			No Emissions
22320		H	54	-54	Avg			Detected
24800		H	74	-74	Peak			No Emissions
24800		H	54	-54	Avg			Detected

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Tested By: Kyle Fujimoto

High Channel - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4960	48.02	V	74	-25.98	Peak	2.66	135	
4960	28.02	V	54	-25.98	Avg	2.66	135	
7440	47.44	V	74	-26.56	Peak	1.77	135	
7440	27.44	V	54	-26.56	Avg	1.77	135	
9920	49.26	V	--	--	Peak	1.77	315	Not in Restricted Band
9920	29.26	V	--	--	Avg	1.77	315	Not in Restricted Band
12400		V	74	-74	Peak			No Emissions
12400		V	54	-54	Avg			Detected
14880		V	74	-74	Peak			No Emissions
14880		V	54	-54	Avg			Detected
17360		V	--	--	Peak			Not in Restricted Band
17360		V	--	--	Avg			Not in Restricted Band
19840		V	74	-74	Peak			No Emissions
19840		V	54	-54	Avg			Detected
22320		V	74	-74	Peak			No Emissions
22320		V	54	-54	Avg			Detected
24800		V	74	-74	Peak			No Emissions
24800		V	54	-54	Avg			Detected

FCC 15.247 and FCC Class B

O' Neil Product Development
Bluetooth Module
Model: BT261159

Date: 04/11/06
Lab: D
Tested By: Kyle Fujimoto

Vertical and Horizontal Polarization - 10 kHz to 1000 MHz

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions
								Found from the Digital
								Portion
								from 10 kHz to 1000 MHz
								for both Vertical and
								Horizontal Polarizations
								EUT tested in all
								three orthgonal axis
								for both Tx and Rx
								modes.

FCC 15.247 and FCC Class B

O' Neil Product Development
Bluetooth Module
Model: BT261159

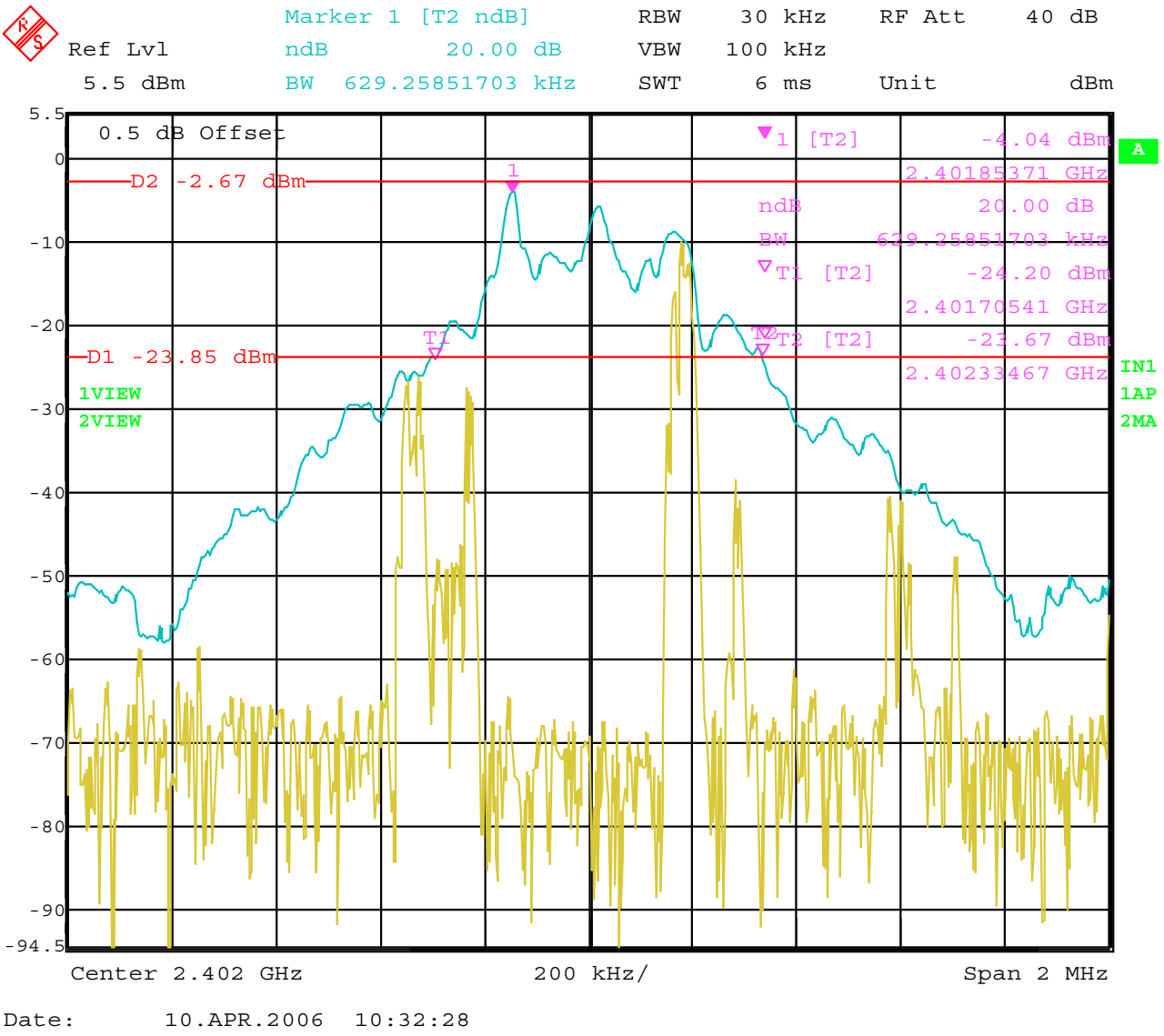
Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

Digital Portion Vertical and Horizontal Polarization

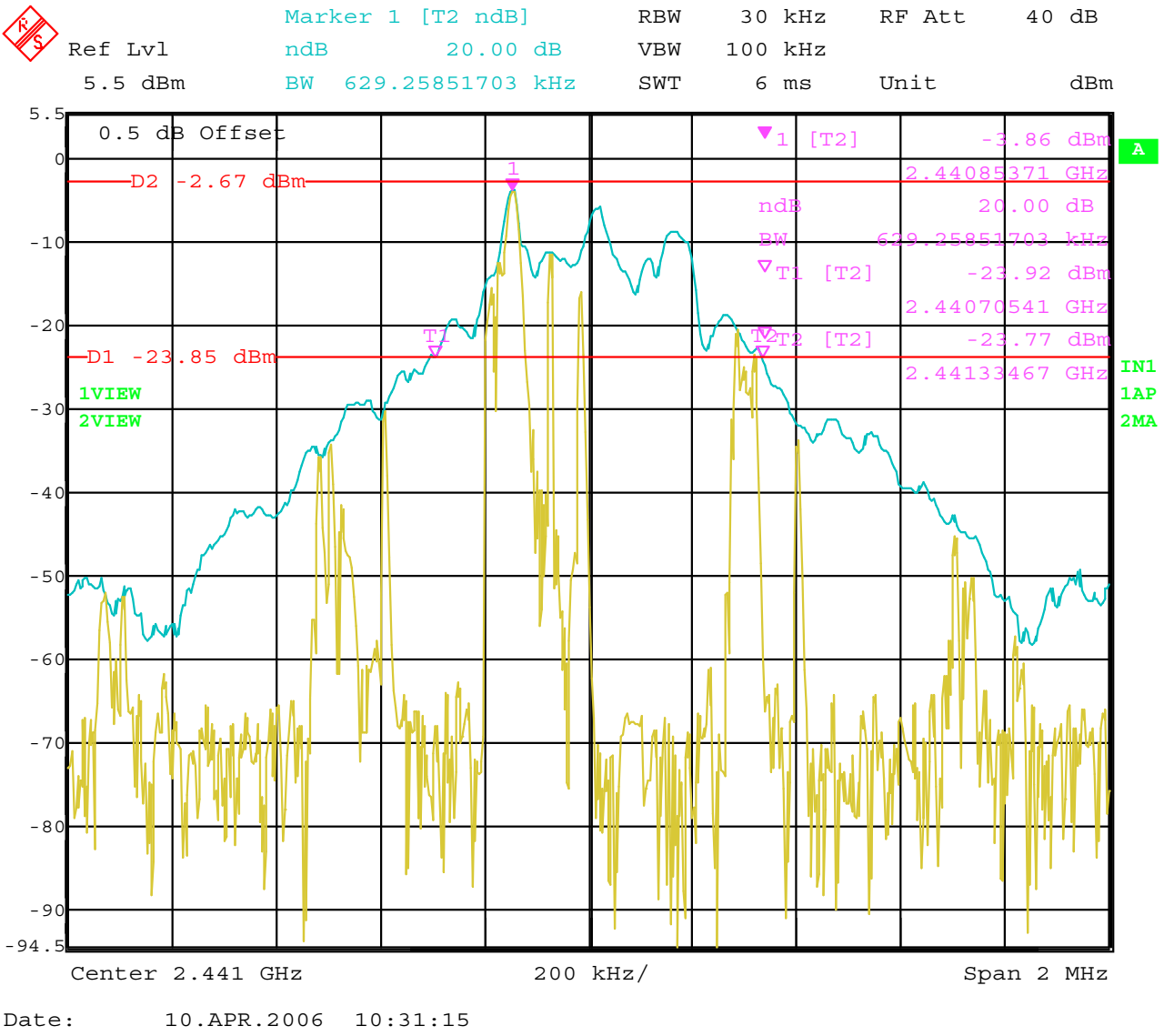
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions
								Found from the Digital
								Portion
								from 1 GHz to 9.3 GHz
								for both Vertical and
								Horizontal Polarizations
								EUT tested in all
								three orthgonal axis

-20 dB BANDWIDTH

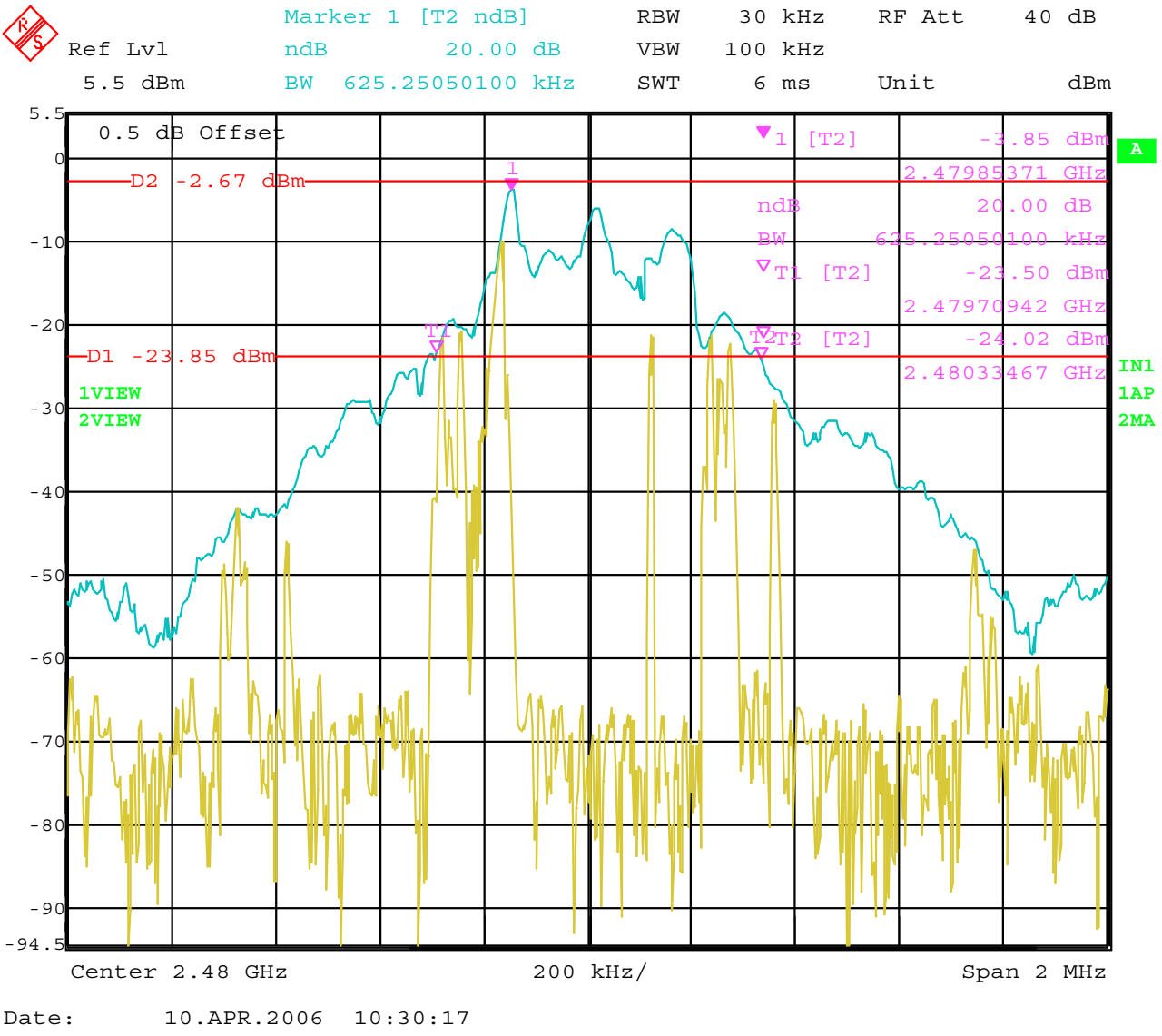
DATA SHEETS



Bandwidth 20 dB – Low Channel



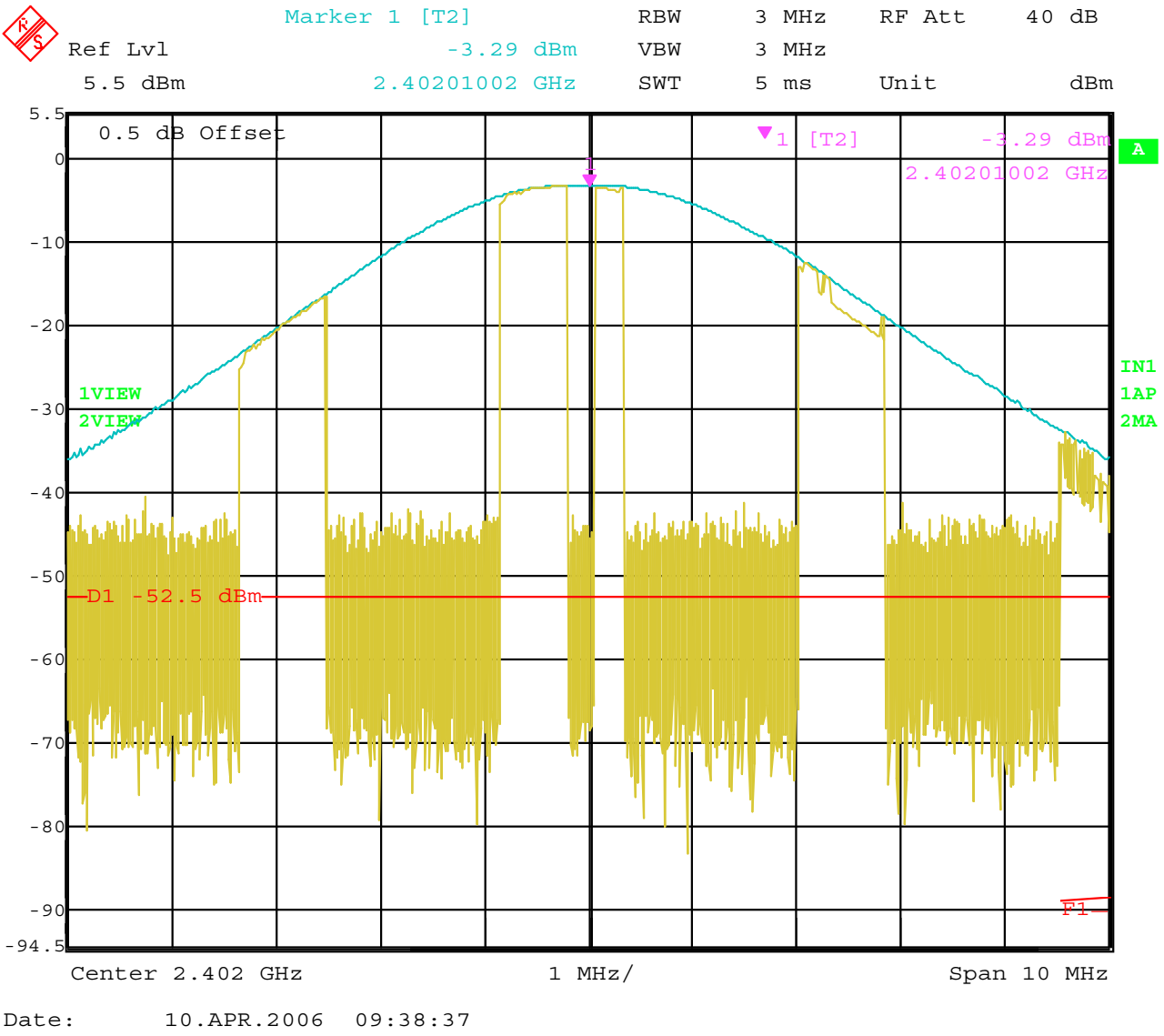
Bandwidth 20 dB – Middle Channel



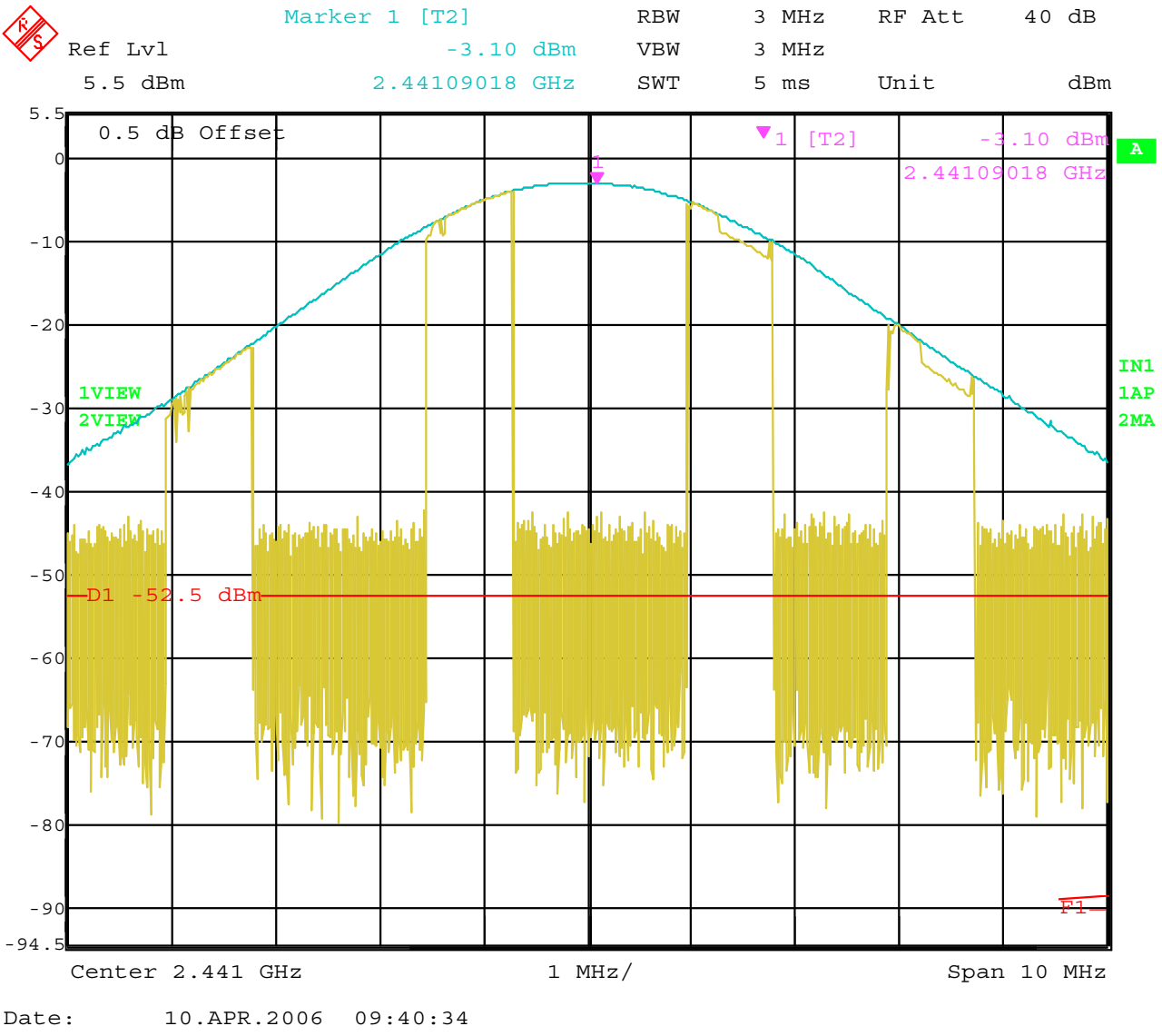
Bandwidth 20 dB – High Channel

PEAK POWER OUTPUT

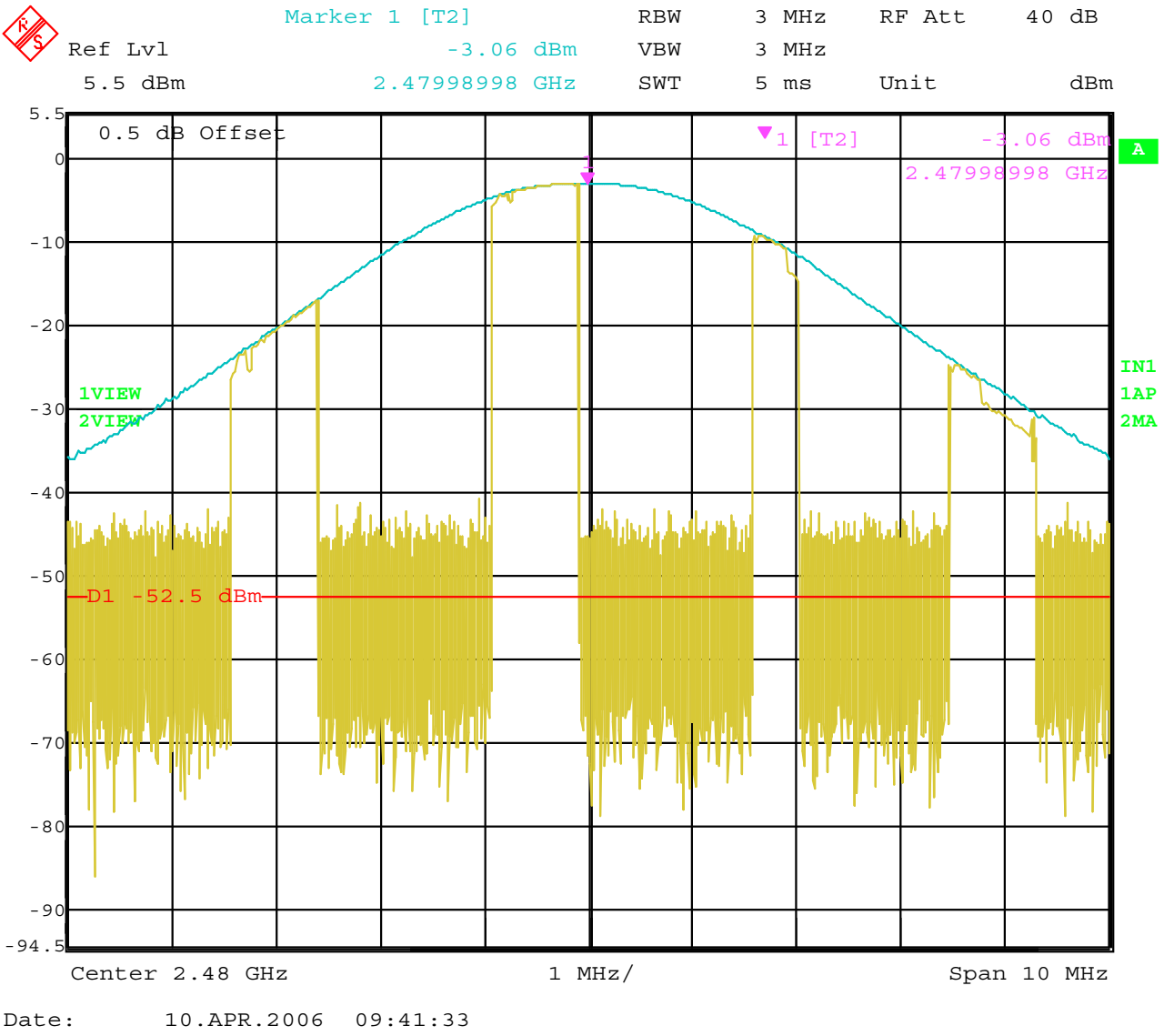
DATA SHEETS



Peak Power Output of the Low Channel



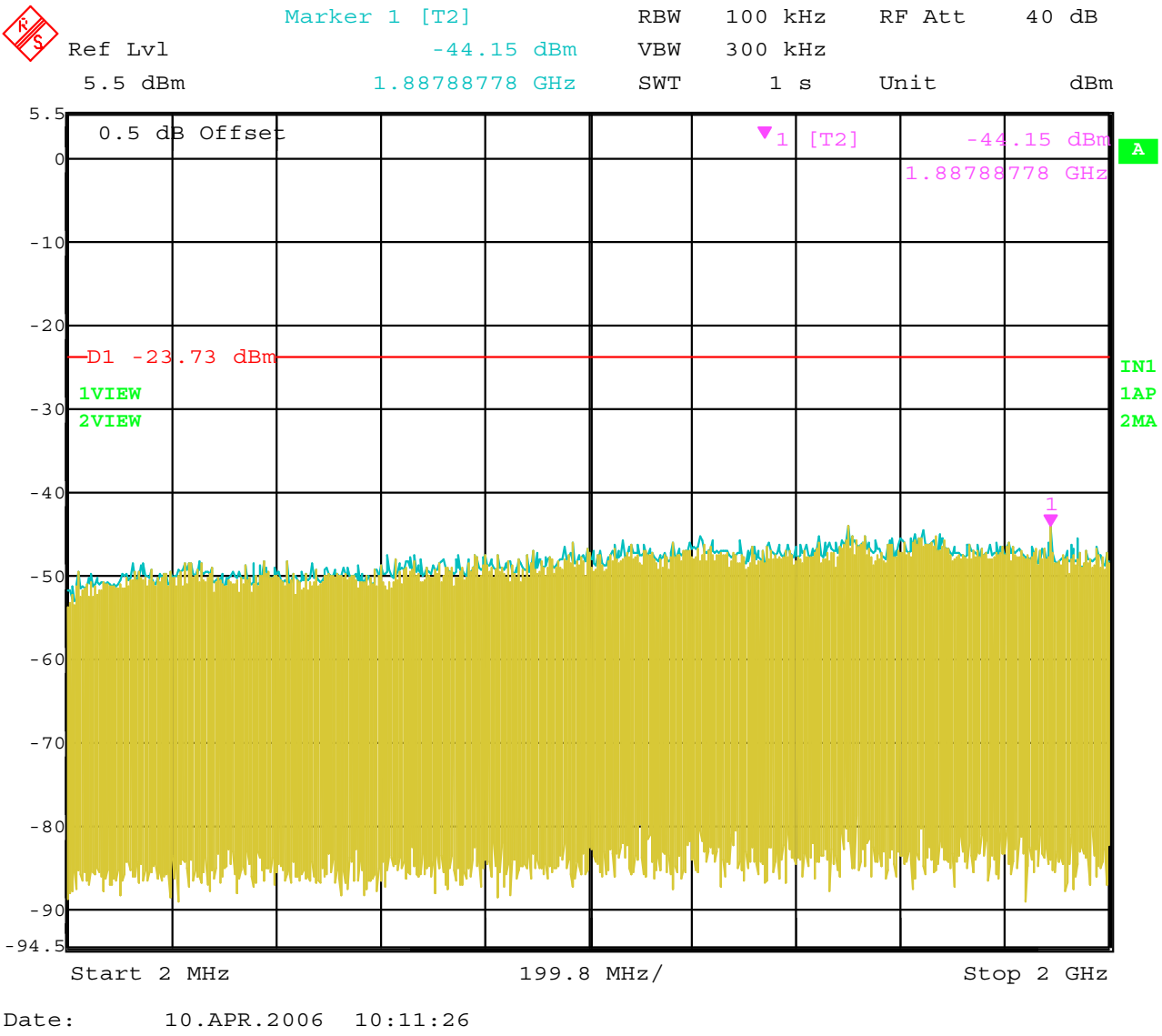
Peak Power Output of the Middle Channel



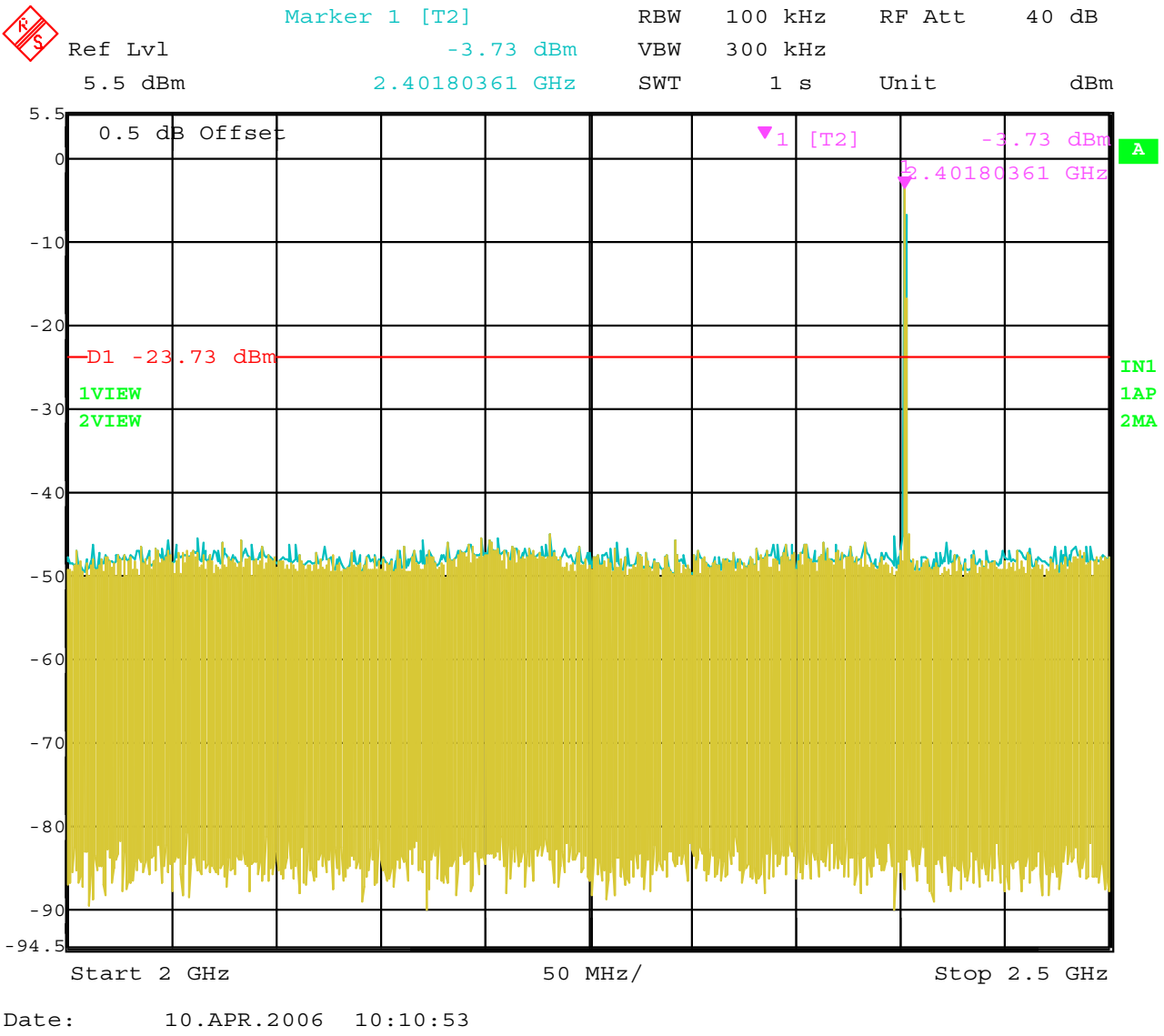
Peak Power Output of the High Channel

RF CONDUCTED ANTENNA TEST

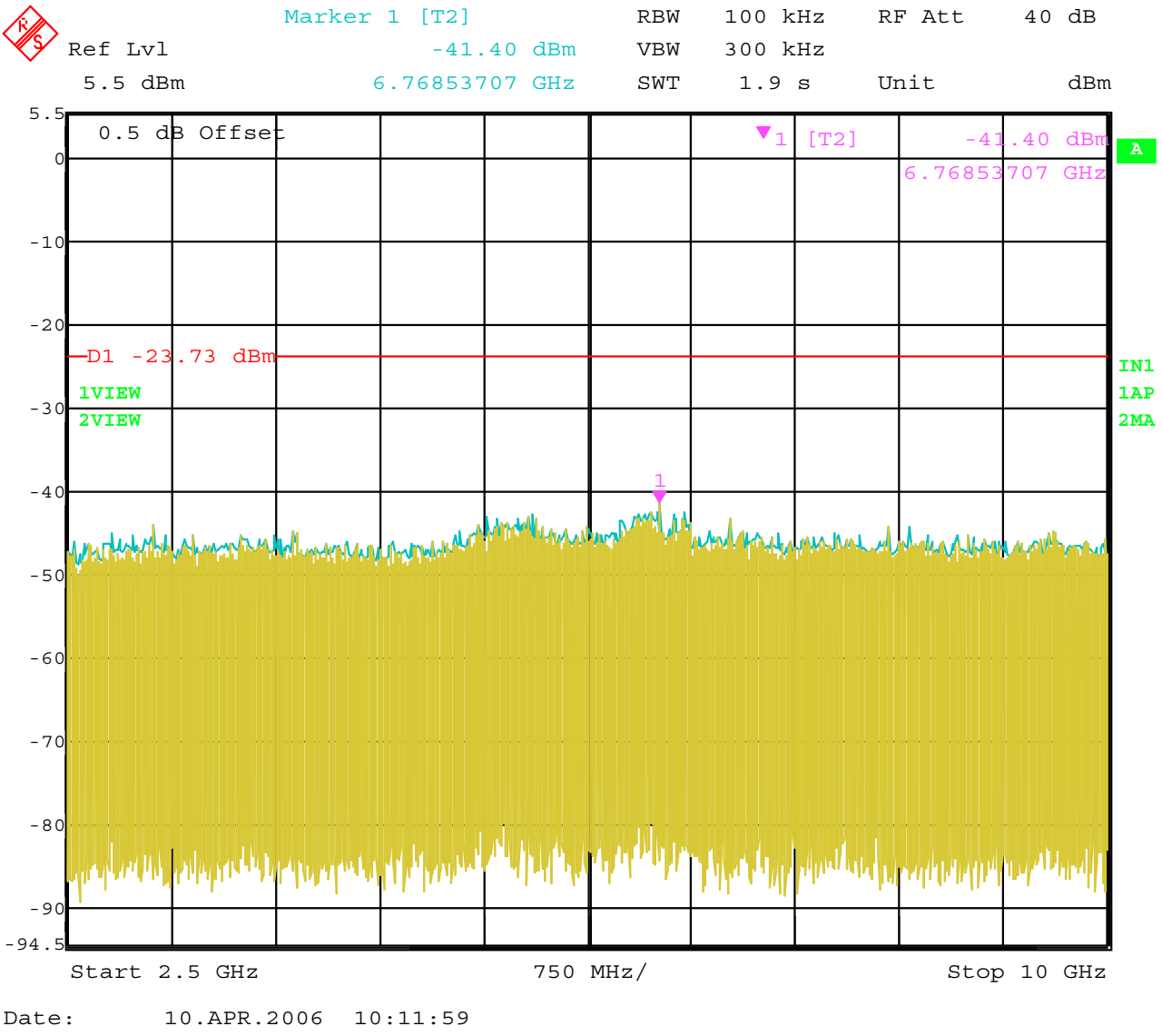
DATA SHEETS



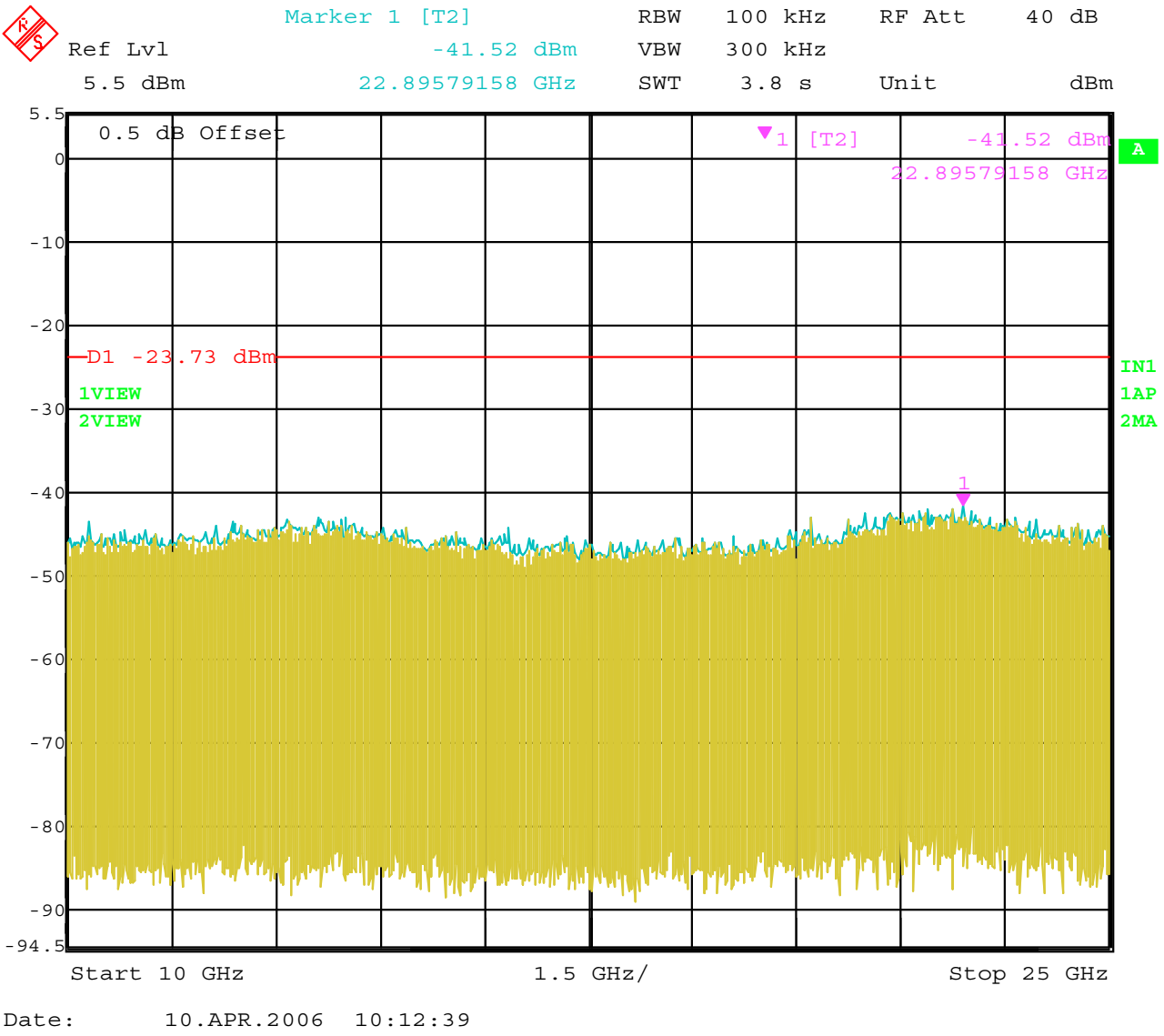
RF Antenna Conducted Test – Low Channel – 2 MHz to 2 GHz



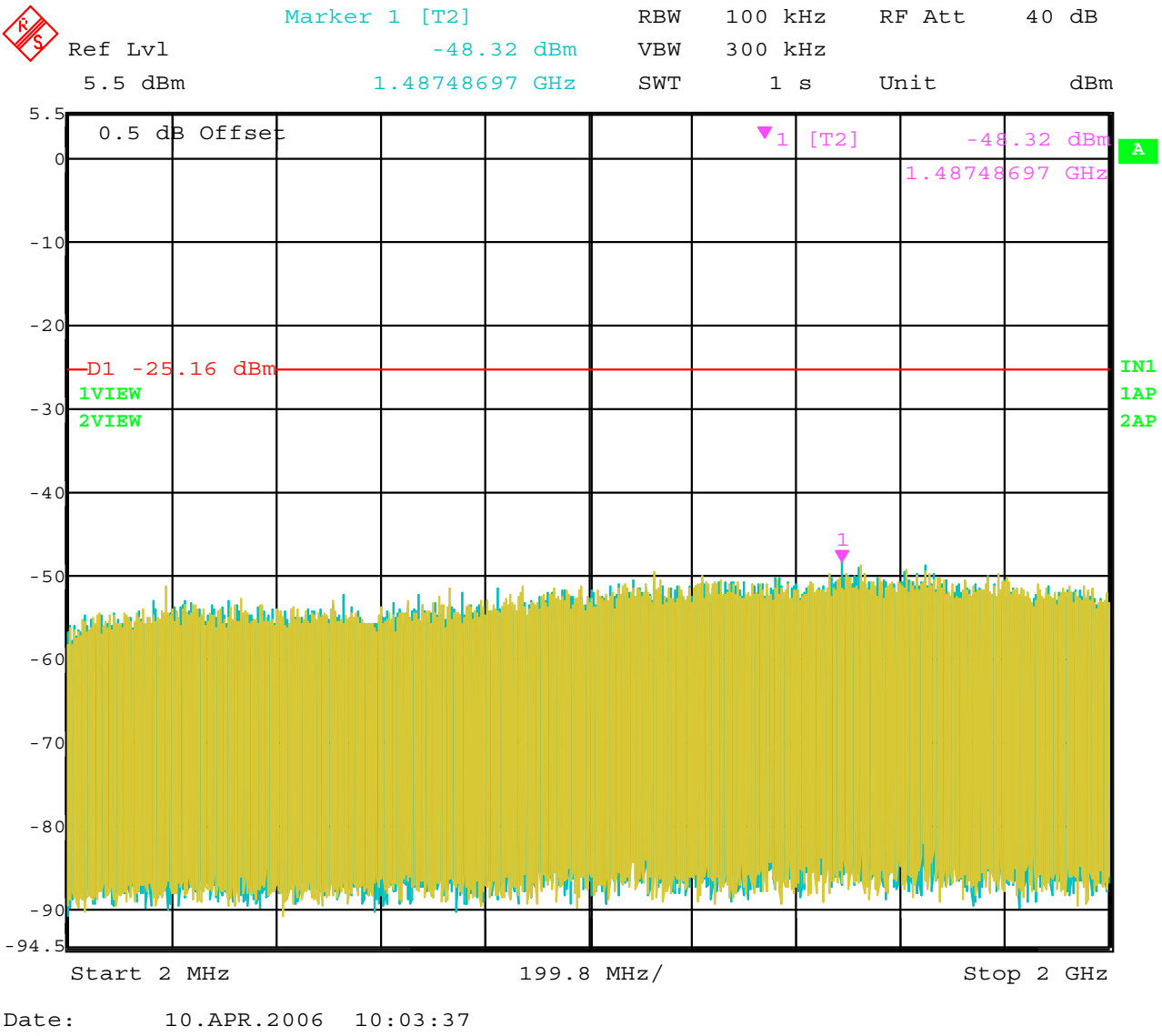
RF Antenna Conducted Test – Low Channel – 2 GHz to 2.5 GHz



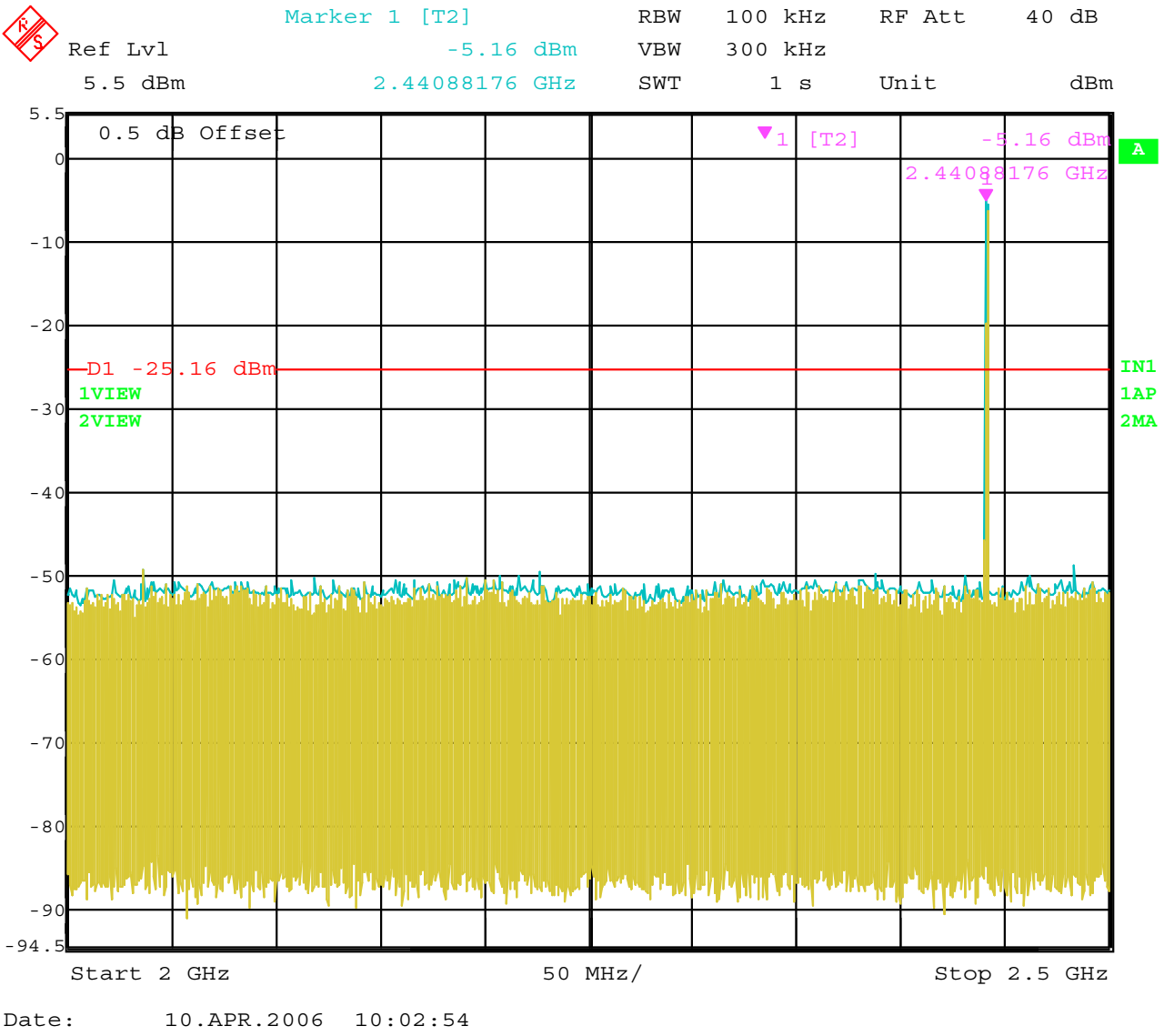
RF Antenna Conducted Test – Low Channel – 2.5 GHz to 10 GHz



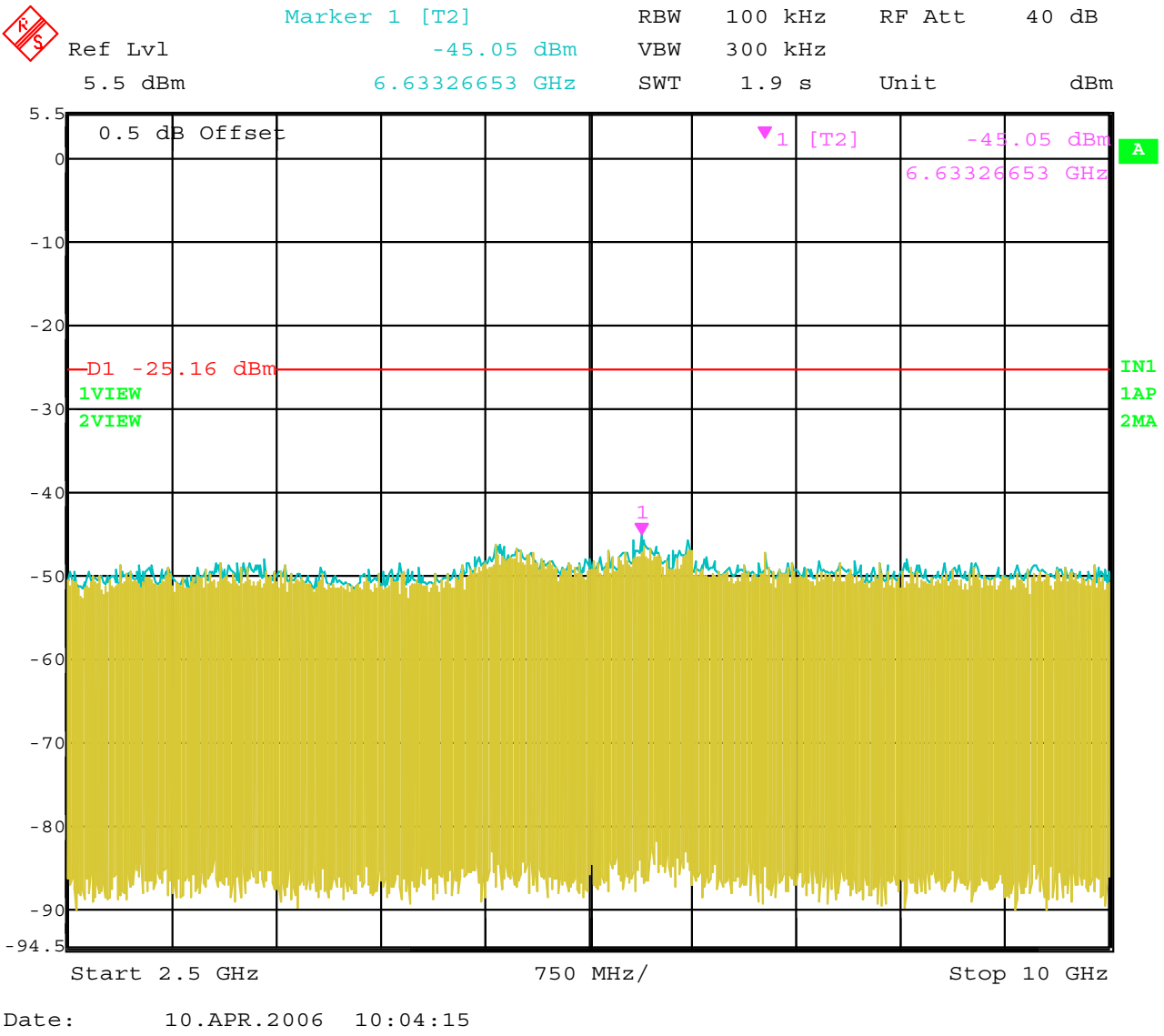
RF Antenna Conducted Test – Low Channel – 10 GHz to 25 GHz



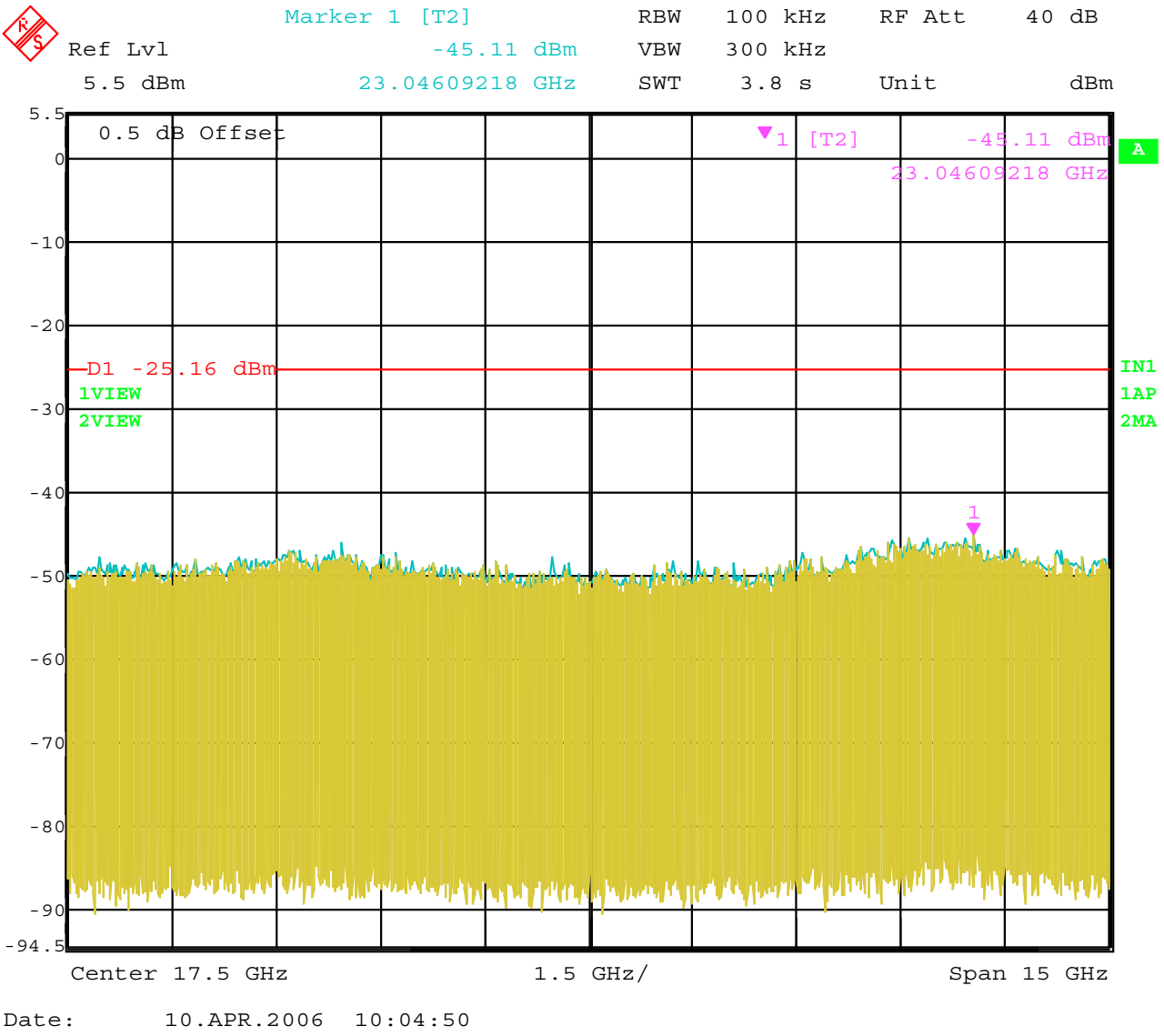
RF Antenna Conducted Test – Middle Channel – 2 MHz to 2 GHz



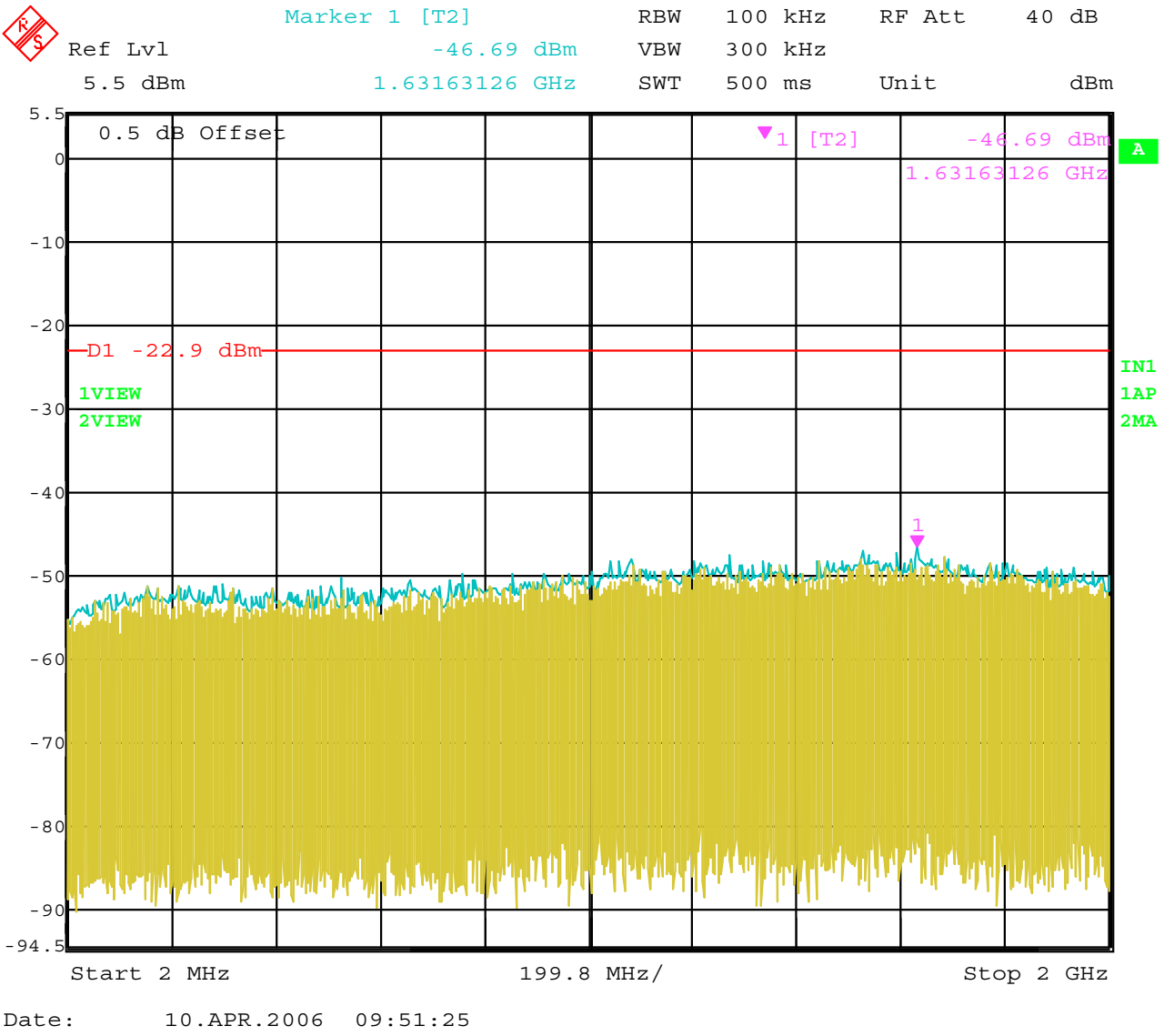
RF Antenna Conducted Test – Middle Channel – 2 GHz to 2.5 GHz



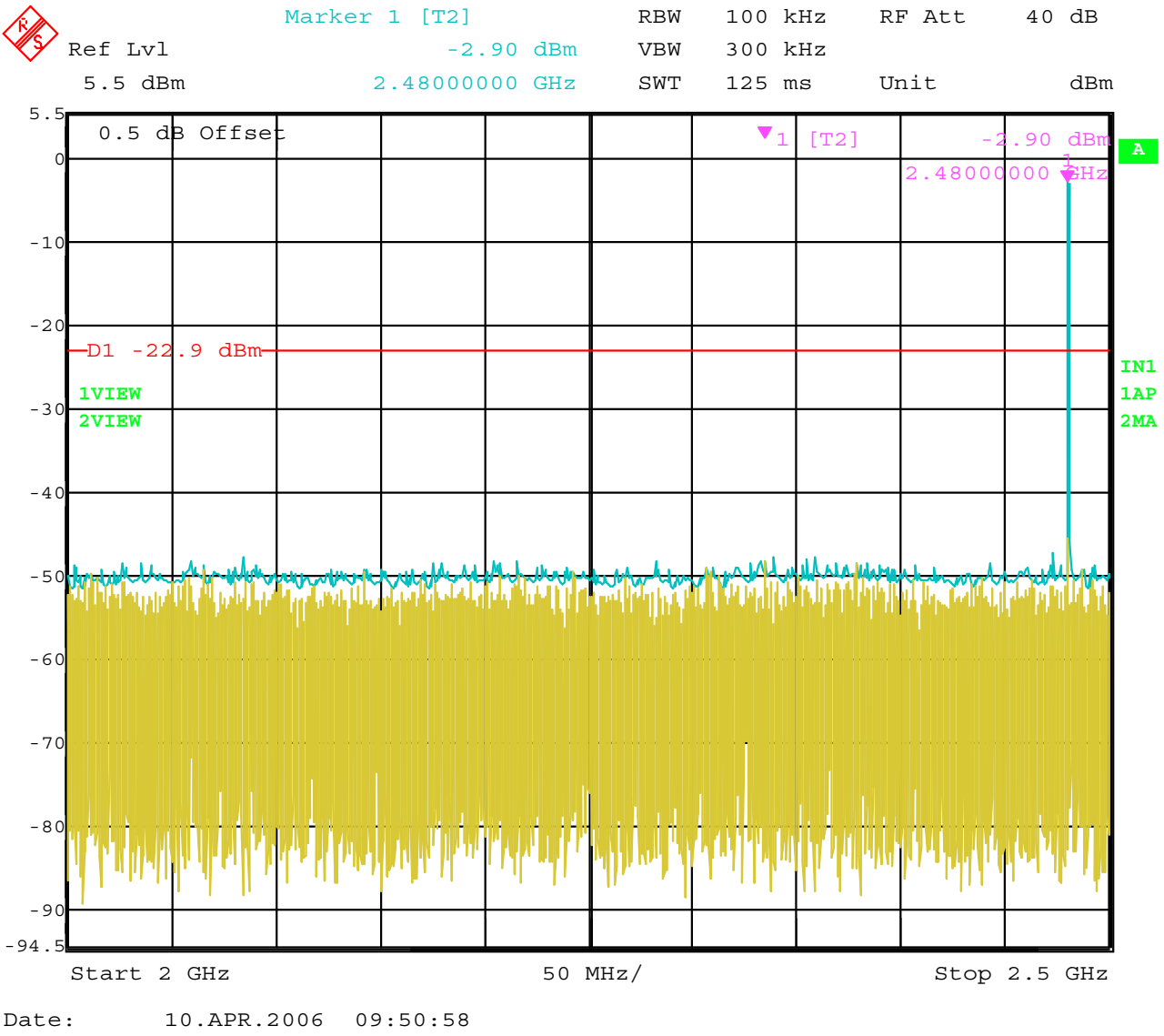
RF Antenna Conducted Test – Middle Channel – 2.5 GHz to 10 GHz



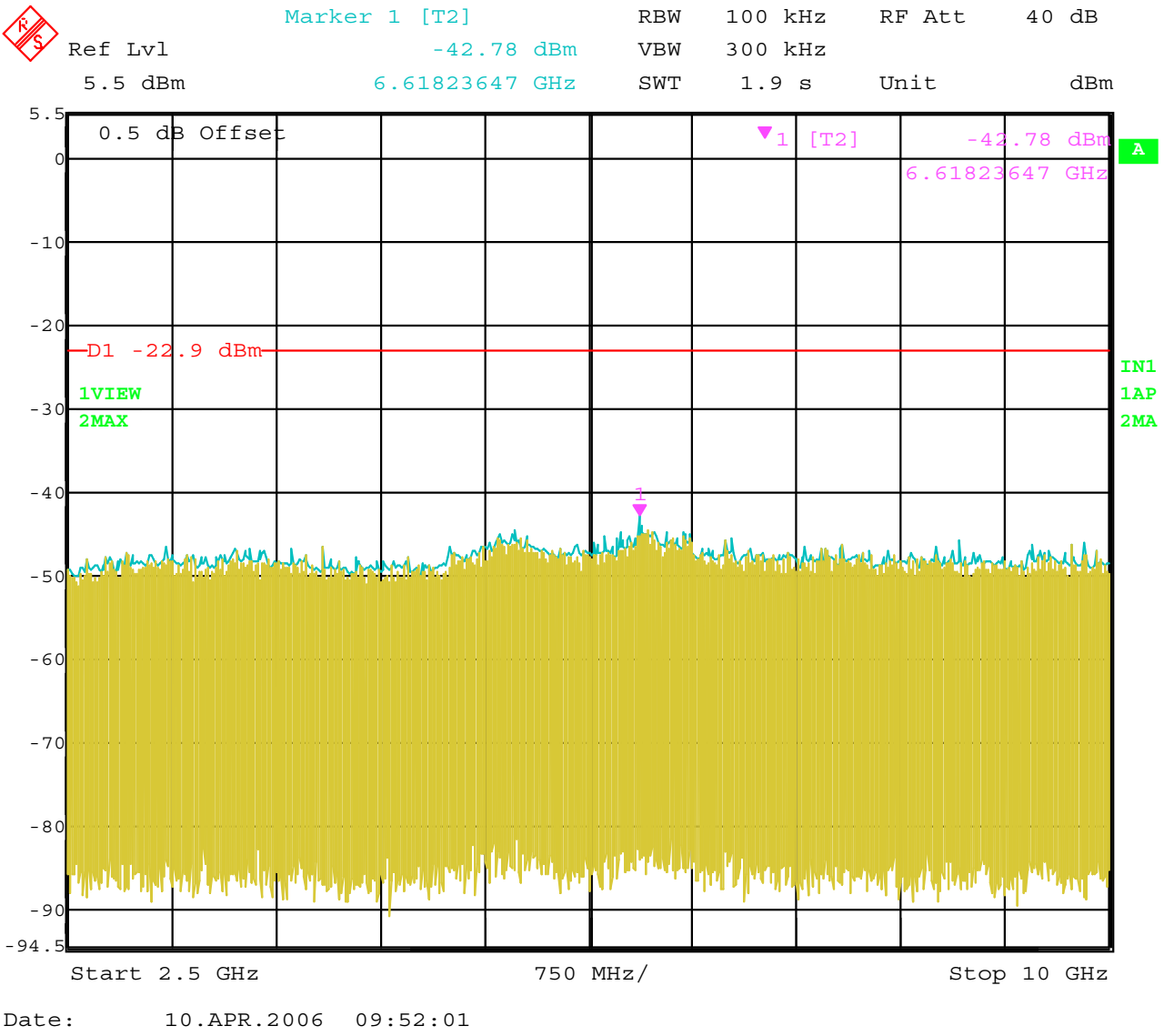
RF Antenna Conducted Test – Middle Channel – 10 GHz to 25 GHz



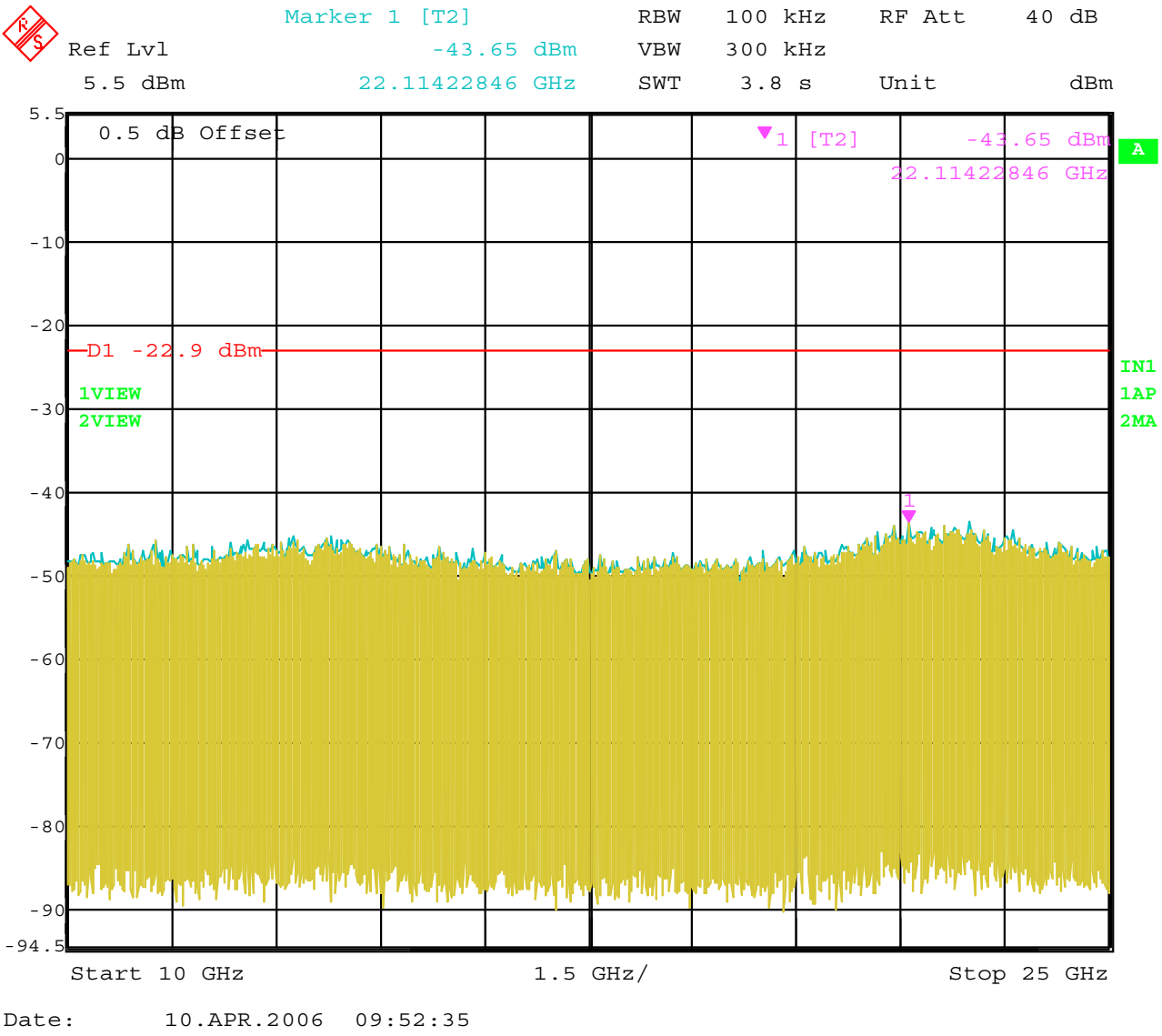
RF Antenna Conducted Test – High Channel – 2 MHz to 2 GHz



RF Antenna Conducted Test – High Channel – 2 GHz to 2.5 GHz



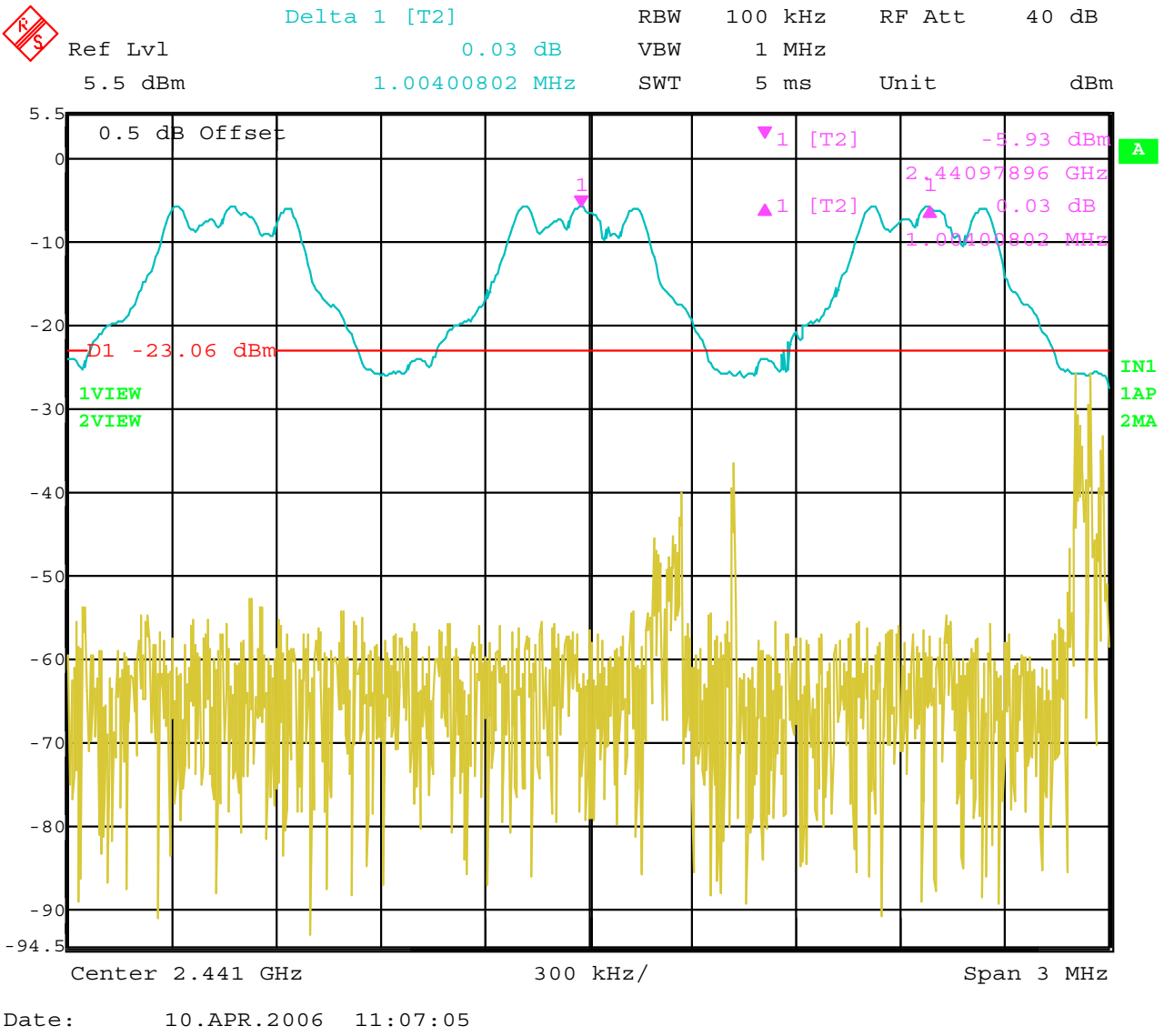
RF Antenna Conducted Test – High Channel – 2.5 GHz to 10 GHz



RF Antenna Conducted Test – High Channel – 10 GHz to 25 GHz

CHANNEL HOPPING SEPARATION

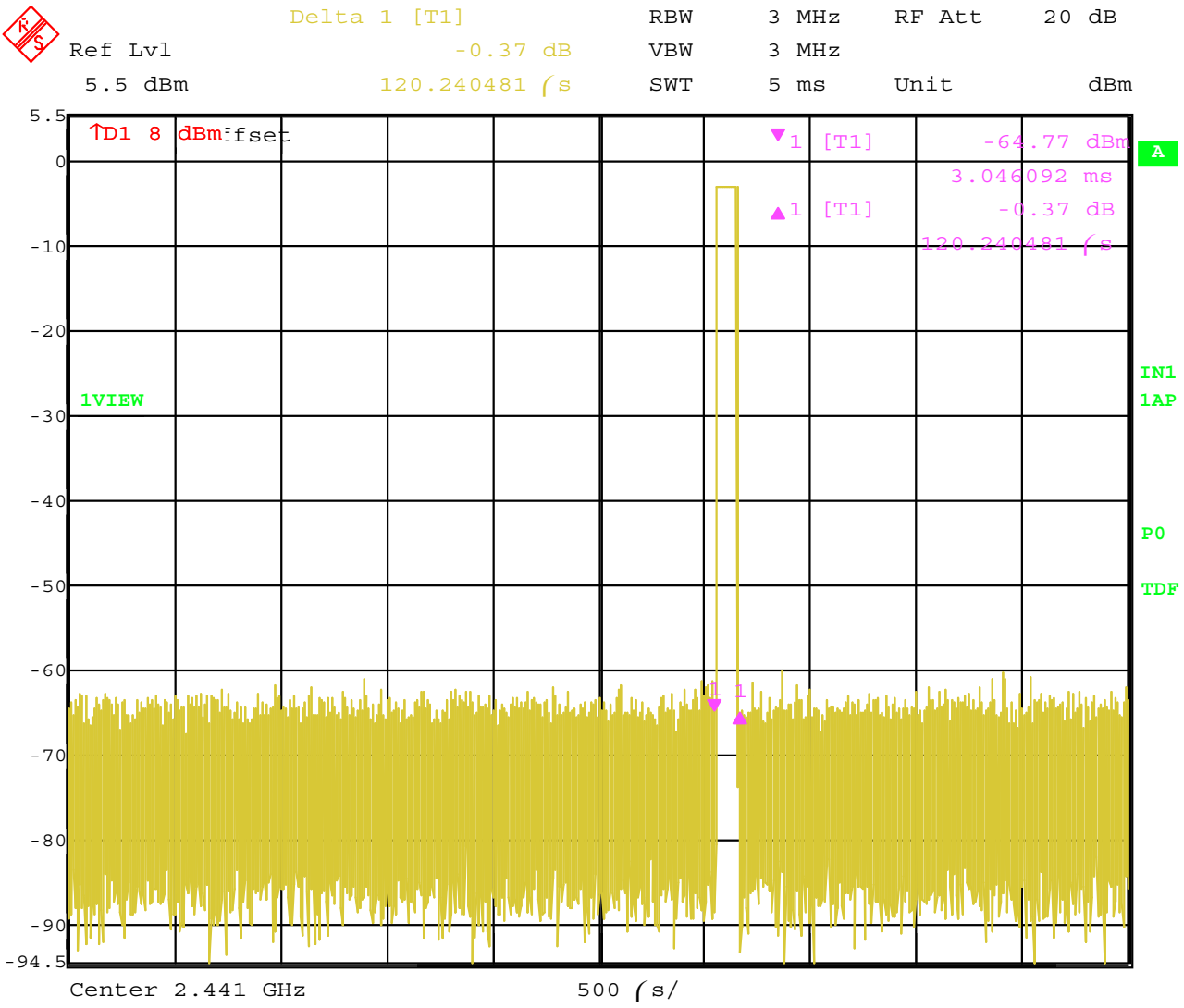
DATA SHEET



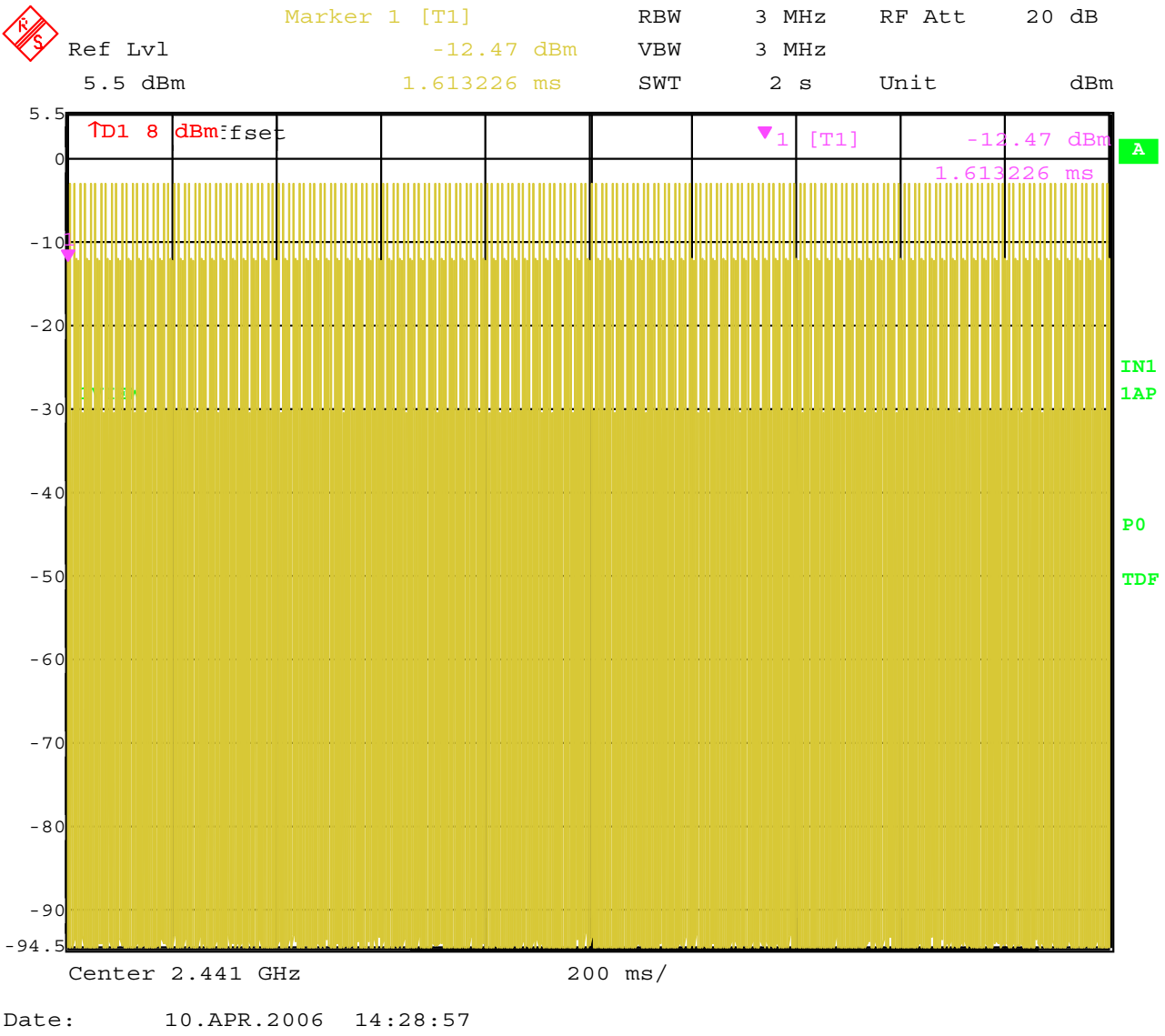
Channel Frequency Separation Test

AVERAGE TIME OF OCCUPANCY

DATA SHEETS



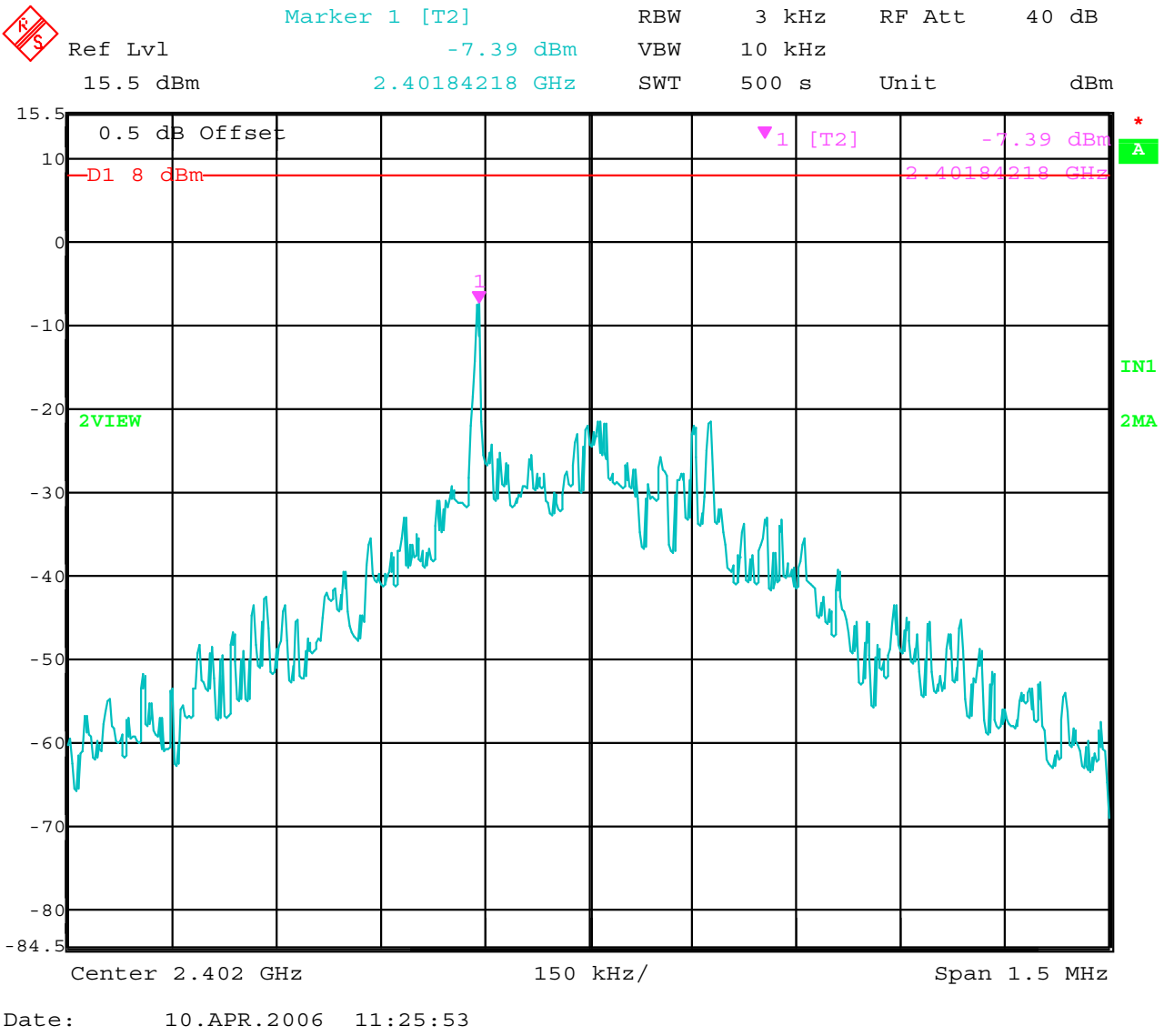
Time of 1 Pulse = 120.240481 uS



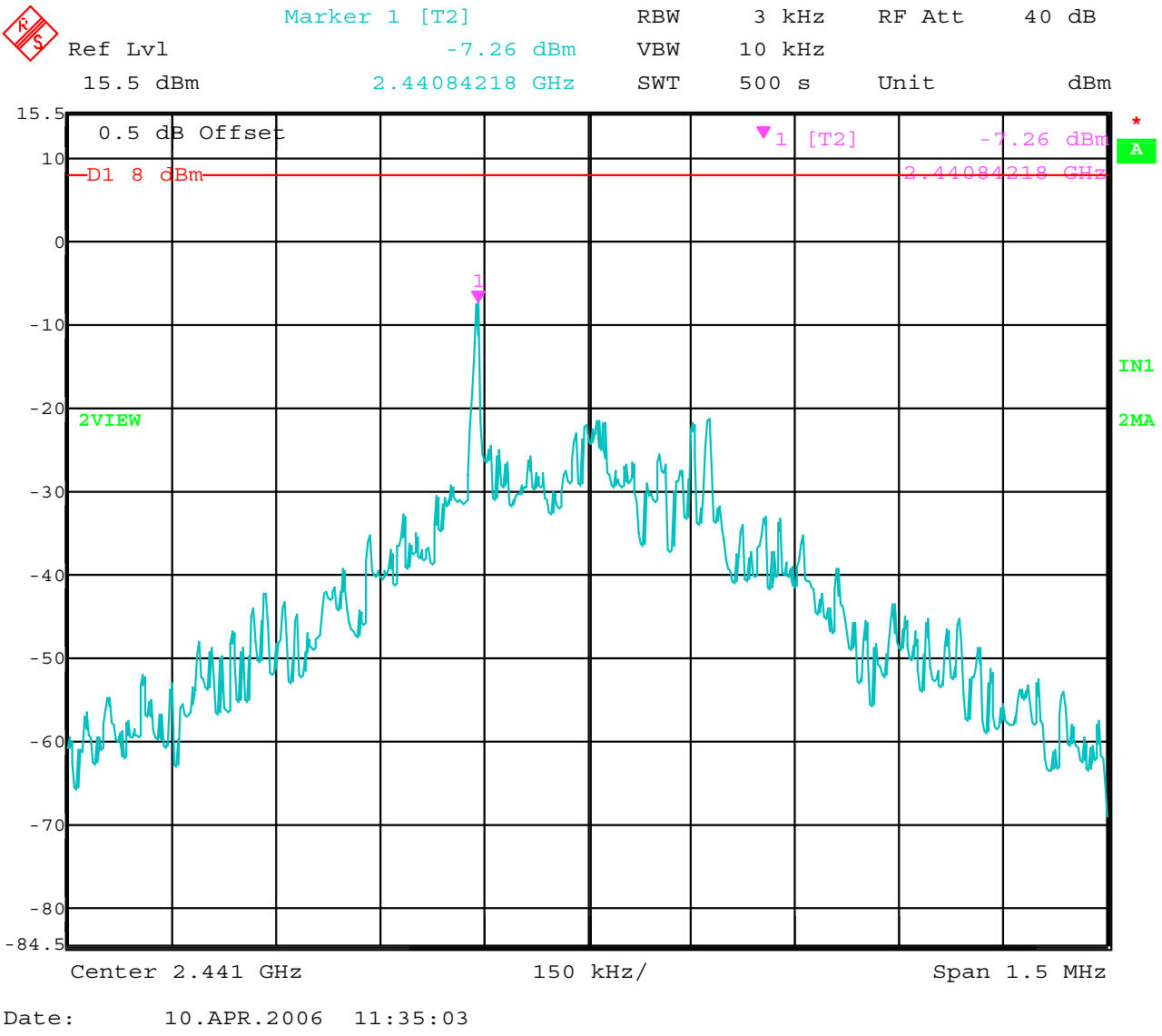
Number of Pulses in 2 Seconds = 200
Number of Pulses in 31.6 Seconds = 200*15.8 = 3160 Pulses in a 31.6 Second Period
Time of Occupancy = 3160 * 120.240481 uS = 379.96 mS per 31.6 Second Period
Limit = 400 mS per 31.6 Second Period

SPECTRAL DENSITY OUTPUT

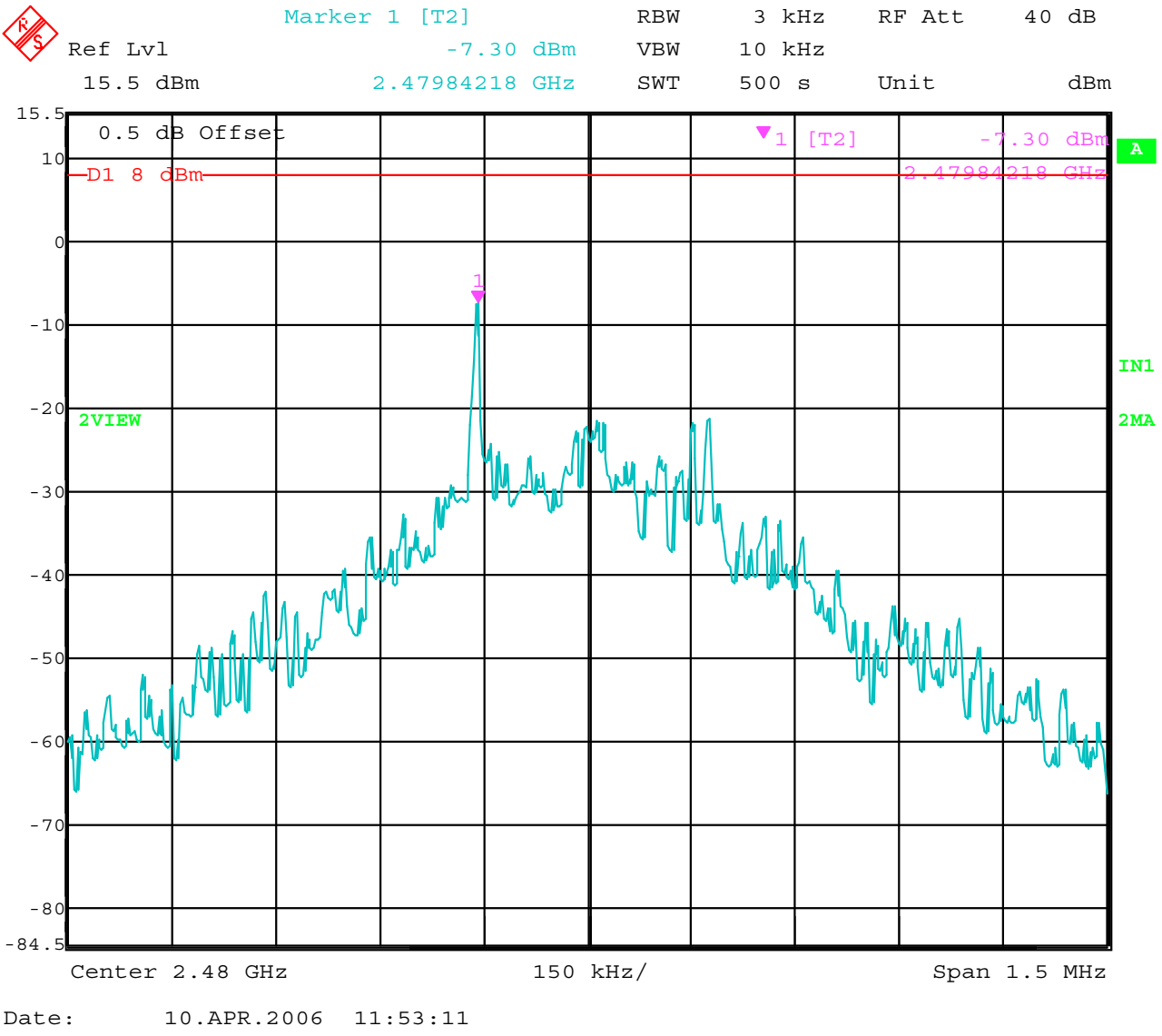
DATA SHEETS



Spectral Density Output – Low Channel



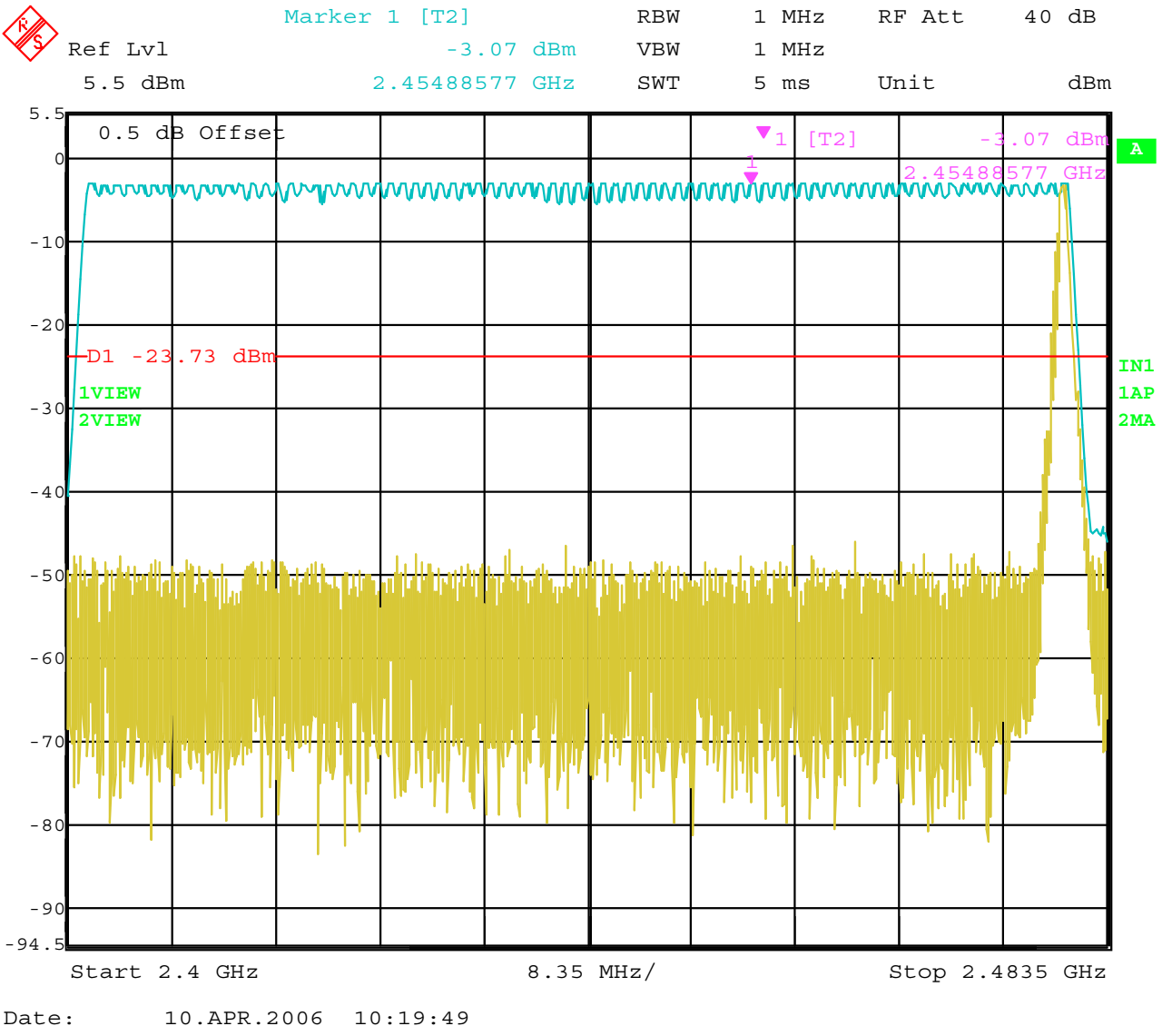
Spectral Density Output – Middle Channel



Spectral Density Output – High Channel

NUMBER OF HOPPING FREQUENCIES

DATA SHEET



Number of Frequencies (79 Total)

BAND EDGES

DATA SHEETS

FCC 15.247
O' Neil Product Development
Bluetooth Module
Model: BT261159

Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

Fundamental Low Channel

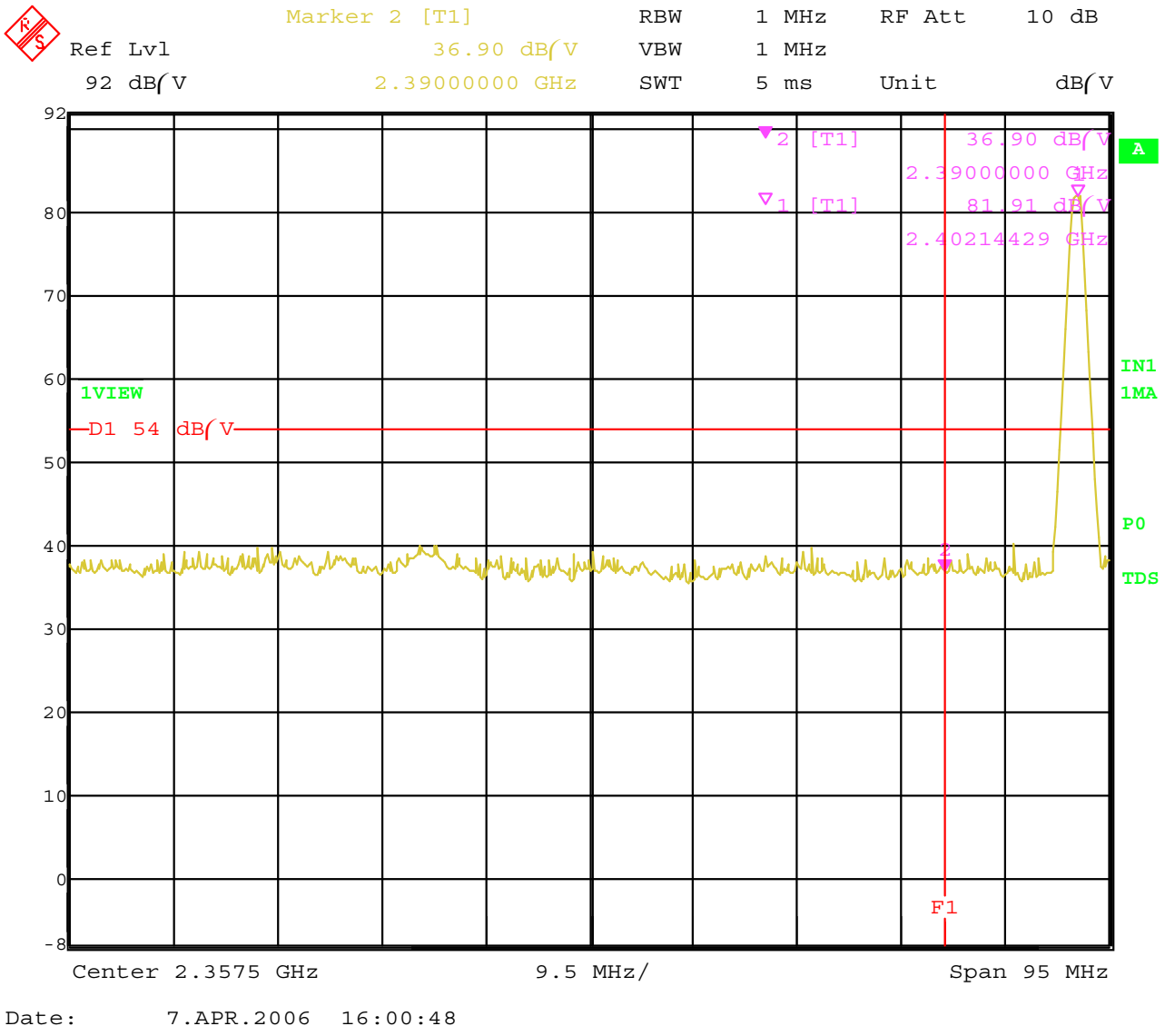
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2402	81.87	V	--	--	Peak	1.39	225	X-Axis
2402	81.91	V	--	--	Peak	1.8	315	Y-Axis
2402	81.33	V	--	--	Peak	3.45	180	Z-Axis
2402	76.90	H	--	--	Peak	2.43	225	X-Axis
2402	84.49	H	--	--	Peak	1	180	Y-Axis
2402	78.43	H	--	--	Peak	1.9	225	Z-Axis

FCC 15.247
O' Neil Product Development
Bluetooth Module
Model: BT261159

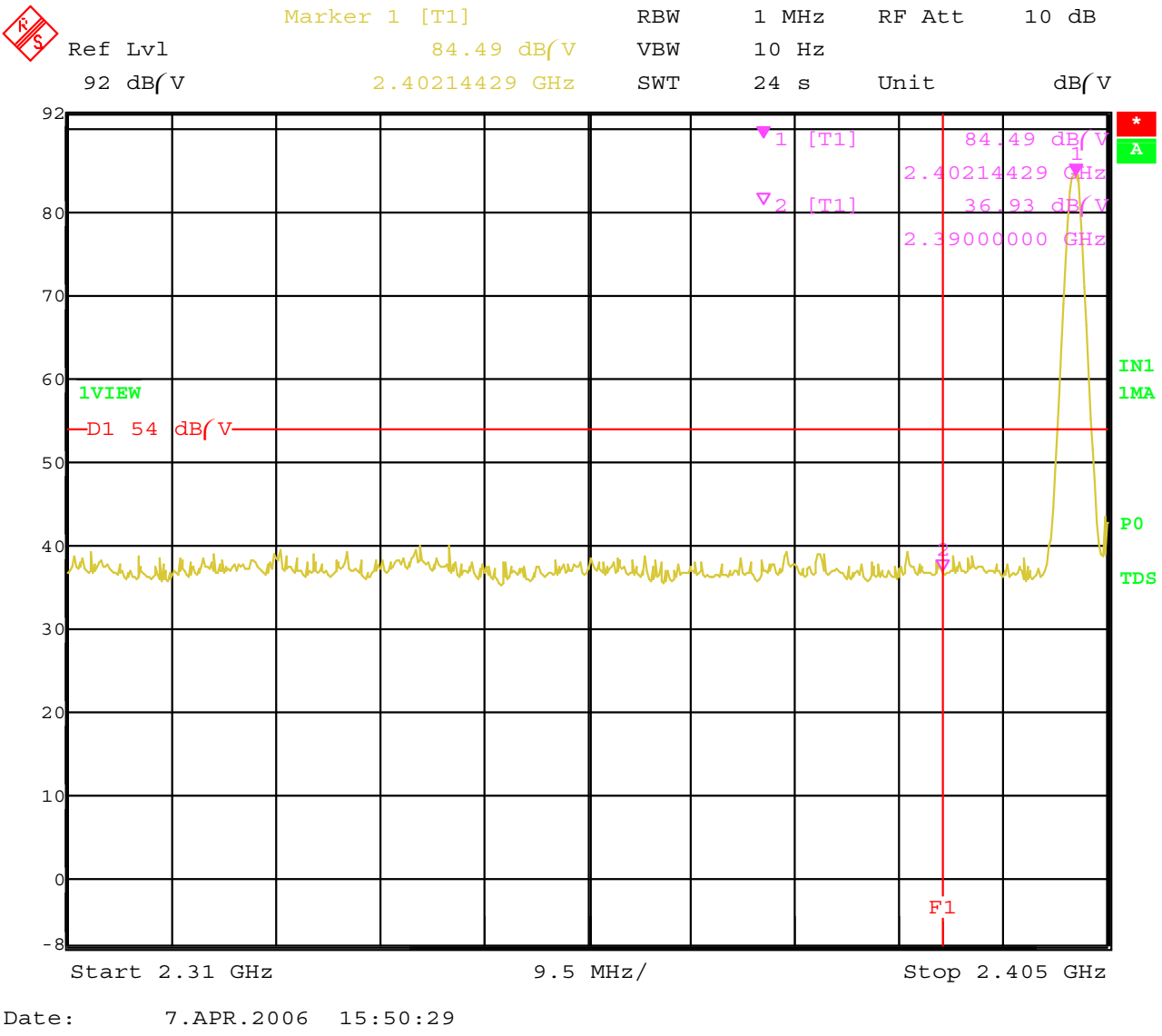
Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

Band Edges - Low Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2390	36.90	V	54	-17.1	Peak	1.8	315	Y-Axis (Worst Case)
2390	36.93	H	54	-17.07	Peak	1	180	Y-Axis (Worst Case)



Band Edge – Low Channel – Vertical Polarization



Band Edge – Low Channel – Horizontal Polarization

FCC 15.247
O' Neil Product Development
Bluetooth Module
Model: BT261159

Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

Fundamental High Channel

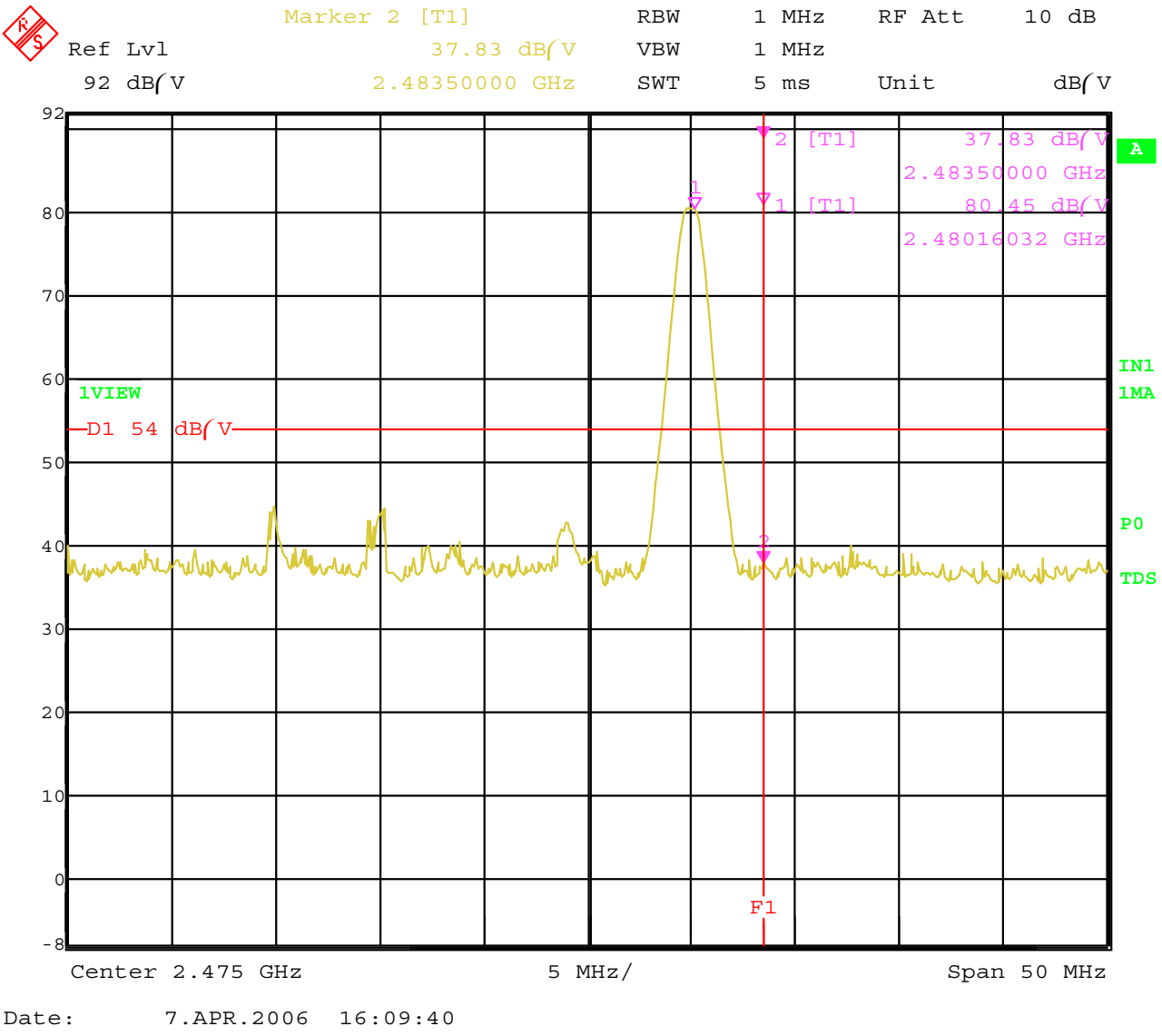
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2480	80.41	V	--	--	Peak	1	180	X-Axis
2480	80.45	V	--	--	Peak	1.32	45	Y-Axis
2480	80.19	V	--	--	Peak	1.78	45	Z-Axis
2480	77.11	H	--	--	Peak	2.69	225	X-Axis
2480	84.03	H	--	--	Peak	1	0	Y-Axis
2480	79.90	H	--	--	Peak	1.68	135	Z-Axis

FCC 15.247
O' Neil Product Development
Bluetooth Module
Model: BT261159

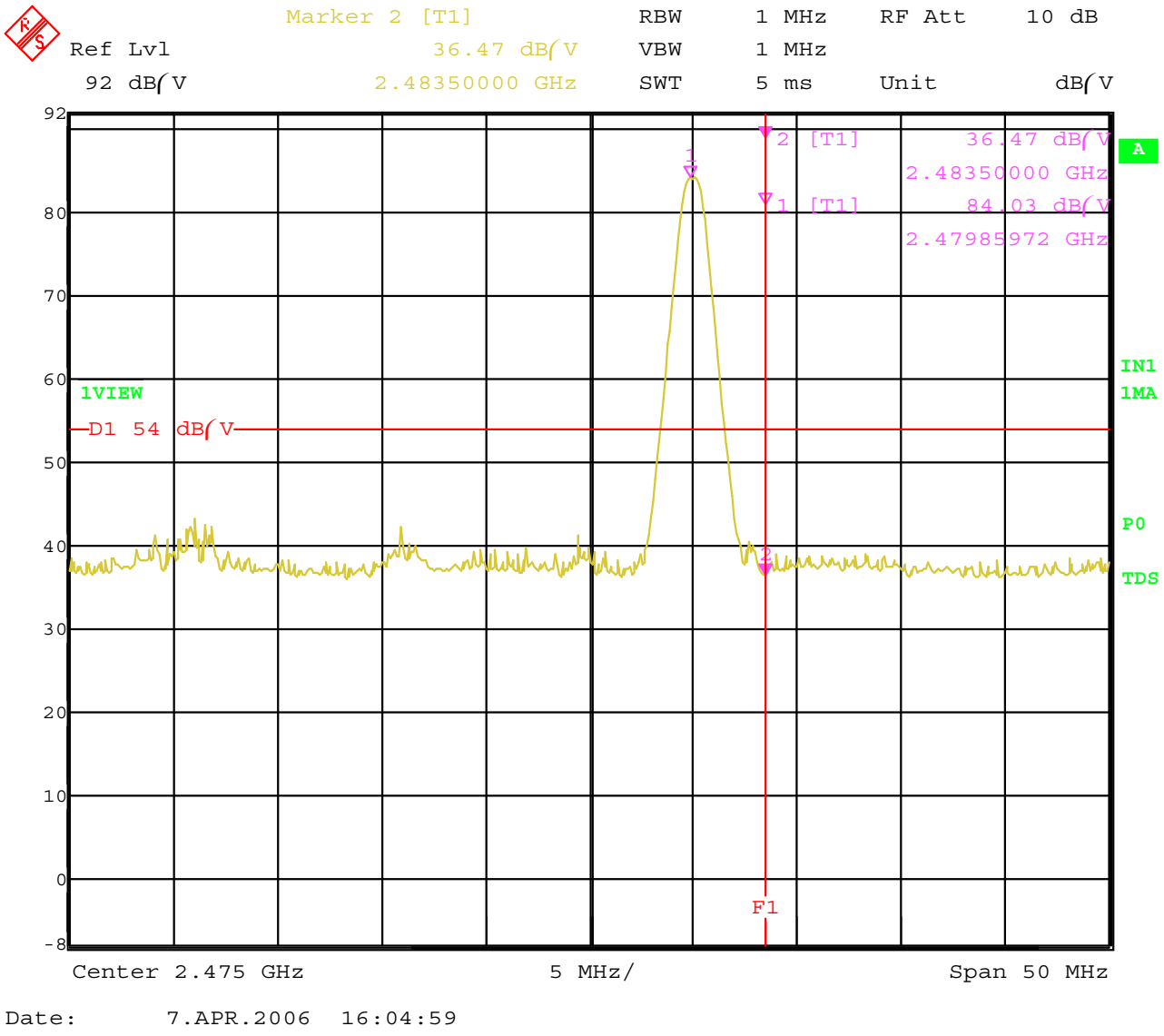
Date: 04/07/06
Lab: B
Tested By: Kyle Fujimoto

Band Edges - High Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2483.5	37.83	V	54	-16.17	Avg	1.32	45	Y-Axis (Worst Case)
2483.5	36.47	H	54	-17.53	Avg	1	180	Y-Axis (Worst Case)



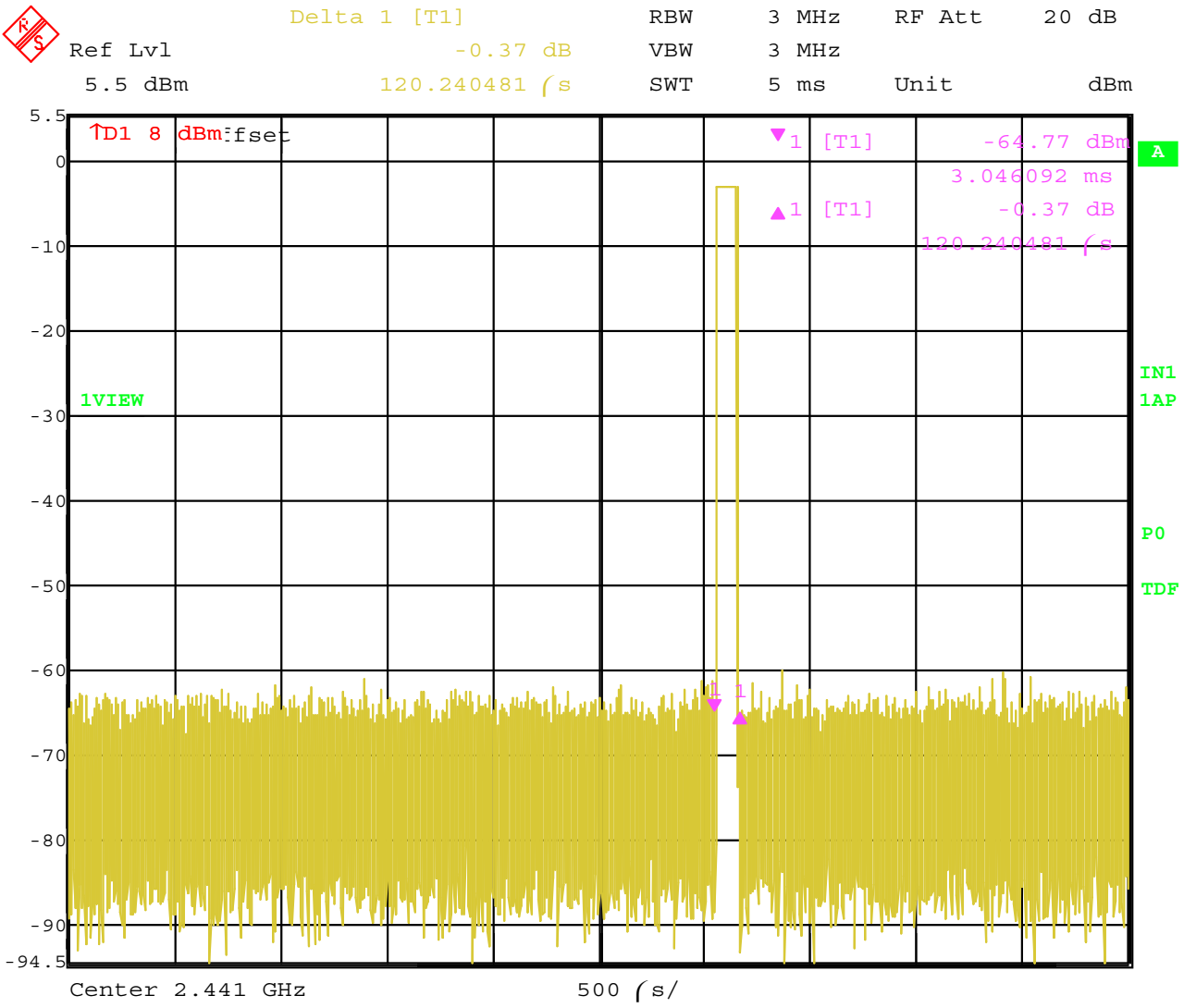
Band Edge – High Channel – Vertical Polarization



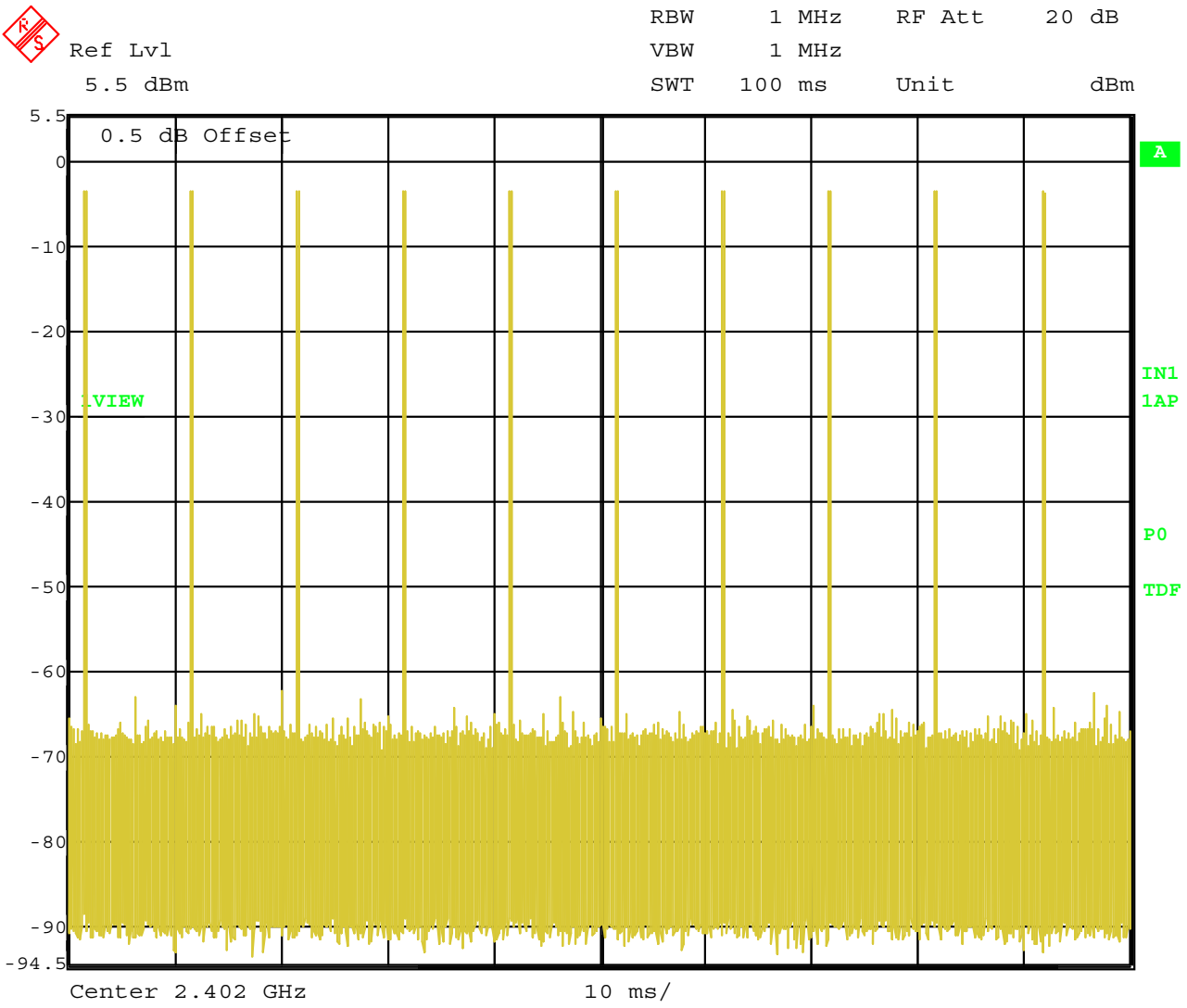
Band Edge – High Channel – Horizontal Polarization

DUTY CYCLE INFORMATION

DATA SHEETS



Time of 1 Pulse = 120.240481 uS



Number of Pulses in 100 mS = 10
Duty Cycle = 120.240481 uS *10 = 1.2024048 mS per 100 mS = 1.202 %
The Maximum of 20 dB Peak to Average can be taken since the Duty Cycle is less than 10%