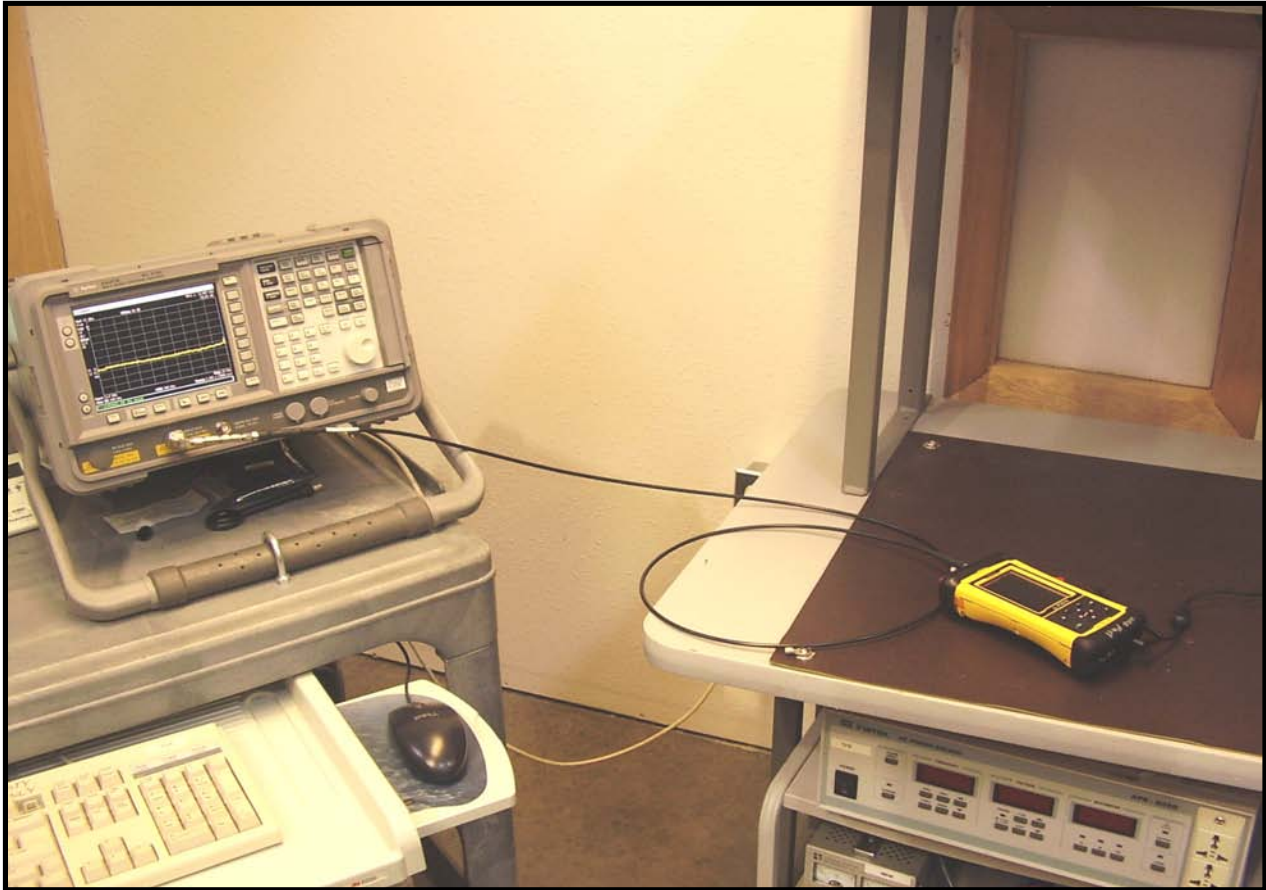








Spurious Conducted Emissions





SPURIOUS RADIATED EMISSIONS

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

MODES OF OPERATION

Transmit mode, Bluetooth, DH5 modulation

Transmit mode, Bluetooth, 2DH5 modulation

Transmit mode, Bluetooth, 3DH5 modulation

CHANNELS INVESTIGATED

Low Channel, Channel 0, 2402 MHz

Mid Channel, Channel 38, 2440 MHz

High Channel, Channel 78, 2480 MHz

POWER SETTINGS INVESTIGATED

120VAC/60Hz

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	26 GHz
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CLOCKS AND OSCILLATORS

None Provided

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4446A	AAT	12/7/2006	13
High Pass Filter	Micro-Tronics	HPM50111	HFO	12/29/2006	13
Pre-Amplifier	Miteq	AM-1616-1000	AOL	12/29/2006	13
Antenna, Biconilog	EMCO	3141	AXE	12/28/2005	24
EV01 cables c,g, h			EVA	12/29/2006	13
Pre-Amplifier	Miteq	AMF-4D-010100-24-10P	APW	5/10/2007	13
Antenna, Horn	EMCO	3115	AHC	8/24/2006	12
EV01 cables g,h,j			EVB	5/10/2007	13
Pre-Amplifier	Miteq	AMF-4D-005180-24-10P	APC	5/10/2007	13
Antenna, Horn	EMCO	3160-08	AHK	NCR	0
EV01 Cable D			EVD	3/30/2006	15
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	3/23/2006	17
Antenna, Horn	EMCO	3160-09	AHG	NCR	0
EV01 cables g,h,i			EVF	5/10/2007	13

MEASUREMENT BANDWIDTHS

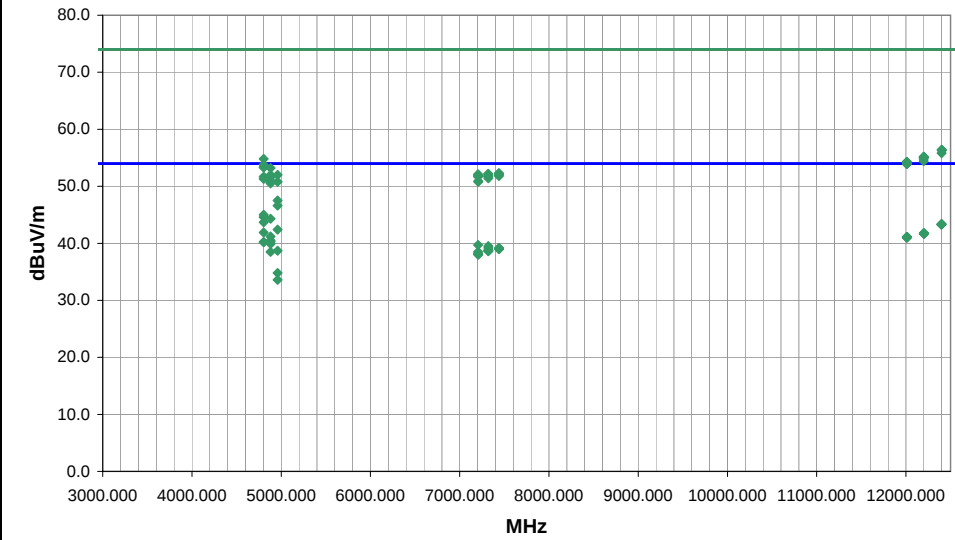
	Frequency Range	Peak Data	Quasi-Peak Data	Average Data
	(MHz)	(kHz)	(kHz)	(kHz)
	0.01 - 0.15	1.0	0.2	0.2
	0.15 - 30.0	10.0	9.0	9.0
	30.0 - 1000	100.0	120.0	120.0
	Above 1000	1000.0	N/A	1000.0
Measurements were made using the bandwidths and detectors specified. No video filter was used.				

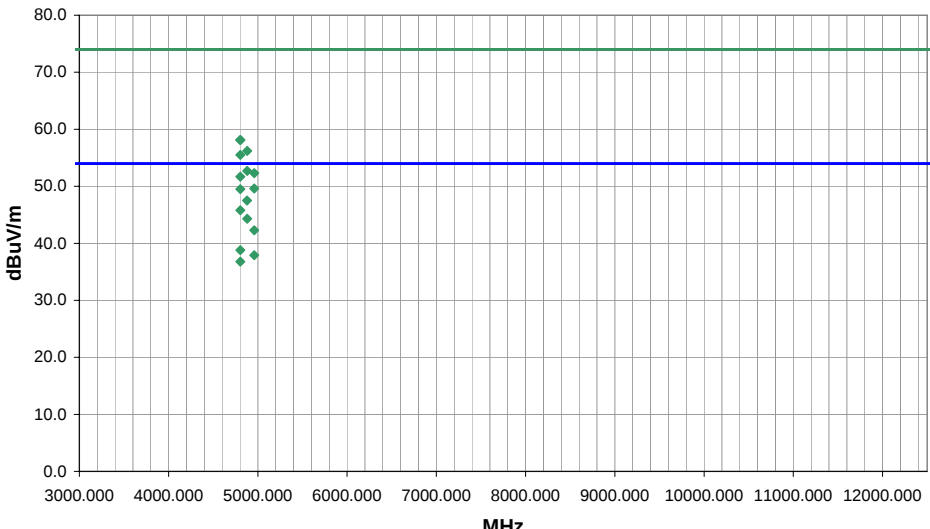
MEASUREMENT UNCERTAINTY

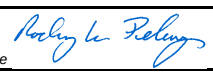
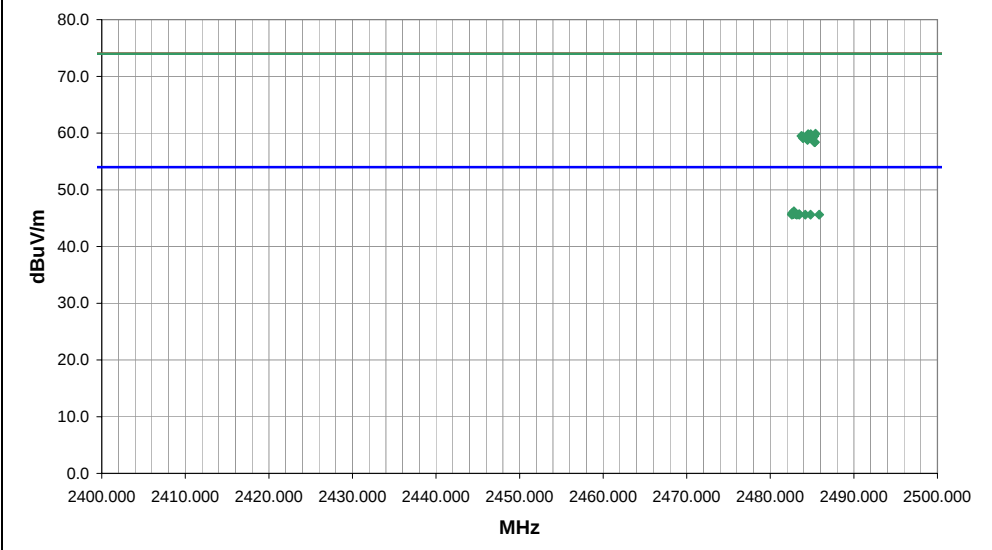
Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify compliance. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.4:2003). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

NORTHWEST		SPURIOUS RADIATED EMISSIONS		PSA 2007.05.07 EMI 2006.12.20									
EMC													
EUT: ST Micro STLC2500C in Eagle				Work Order: TRPO0034									
Serial Number: Unknown				Date: 06/23/07									
Customer: Tripod Data Systems, Inc.				Temperature: 25° C									
Attendees: None				Humidity: 31%									
Project: None				Barometric Pres.: 30.05									
Tested by: Dan Haas		Power: 120VAC/60Hz		Job Site: EV01									
TEST SPECIFICATIONS				Test Method									
FCC 15.247 (DTS):2006				ANSI C63.4:2003 KDB No. 558074									
TEST PARAMETERS													
Antenna Height(s) (m)		1 - 4		Test Distance (m) 3m									
COMMENTS													
EUT on its back.													
EUT OPERATING MODES													
Continuous Tx Bluetooth													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #		1											
Configuration #		4											
Results		Pass											
Signature 													
													
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
4803.975	37.6	7.4	230.0	1.6	0.0	0.0	H-Horn	AV	0.0	45.0	54.0	-9.0	Low Channel DH5 data rate.
4803.975	37.2	7.4	180.0	1.0	0.0	0.0	V-Horn	AV	0.0	44.6	54.0	-9.4	Low Channel DH5 data rate.
4880.010	36.6	7.7	177.0	1.0	0.0	0.0	V-Horn	AV	0.0	44.3	54.0	-9.7	Mid Channel DH5 data rate.
4804.010	36.3	7.4	282.0	1.5	0.0	0.0	H-Horn	AV	0.0	43.7	54.0	-10.3	Low Channel 2DH5 data rate.
12399.960	25.4	18.0	95.0	3.4	0.0	0.0	V-Horn	AV	0.0	43.4	54.0	-10.6	High Channel 2DH5 data rate.
12397.460	25.3	18.0	186.0	1.0	0.0	0.0	H-Horn	AV	0.0	43.3	54.0	-10.7	High Channel DH5 data rate.
12398.130	25.3	18.0	300.0	1.0	0.0	0.0	H-Horn	AV	0.0	43.3	54.0	-10.7	High Channel 2DH5 data rate.
12398.470	25.3	18.0	102.0	1.0	0.0	0.0	V-Horn	AV	0.0	43.3	54.0	-10.7	High Channel DH5 data rate.
4960.015	34.4	8.0	197.0	1.0	0.0	0.0	V-Horn	AV	0.0	42.4	54.0	-11.6	High Channel DH5 data rate.
4803.970	34.5	7.4	281.0	1.0	0.0	0.0	H-Horn	AV	0.0	41.9	54.0	-12.1	Low Channel 3DH5 data rate.
12200.180	24.9	16.9	57.0	1.7	0.0	0.0	H-Horn	AV	0.0	41.8	54.0	-12.2	Mid Channel DH5 data rate.
12200.480	24.8	16.9	17.0	1.0	0.0	0.0	V-Horn	AV	0.0	41.7	54.0	-12.3	Mid Channel DH5 data rate.
12200.640	24.8	16.9	239.0	1.0	0.0	0.0	V-Horn	AV	0.0	41.7	54.0	-12.3	Mid Channel 2DH5 data rate.
12201.780	24.8	16.9	113.0	1.0	0.0	0.0	H-Horn	AV	0.0	41.7	54.0	-12.3	Mid Channel 3DH5 data rate.
12202.030	24.8	16.9	236.0	1.0	0.0	0.0	H-Horn	AV	0.0	41.7	54.0	-12.3	Mid Channel 2DH5 data rate.
12202.710	24.8	16.9	199.0	1.0	0.0	0.0	V-Horn	AV	0.0	41.7	54.0	-12.3	Mid Channel 3DH5 data rate.
4880.005	33.5	7.7	233.0	1.7	0.0	0.0	H-Horn	AV	0.0	41.2	54.0	-12.8	Mid Channel DH5 data rate.
12010.130	25.2	15.9	332.0	1.0	0.0	0.0	H-Horn	AV	0.0	41.1	54.0	-12.9	Low Channel 3DH5 data rate.
12010.470	25.2	15.9	177.0	1.0	0.0	0.0	H-Horn	AV	0.0	41.1	54.0	-12.9	Low Channel DH5 data rate.
12011.670	25.2	15.9	175.0	1.0	0.0	0.0	H-Horn	AV	0.0	41.1	54.0	-12.9	Low Channel 2DH5 data rate.

EMC										SPURIOUS RADIATED EMISSIONS										PSA 2007.05.07 EMI 2006.12.20	
EUT: ST Micro STLC2500C in Eagle										Work Order: TRPO0034											
Serial Number: Unknown										Date: 06/25/07											
Customer: Tripod Data Systems, Inc.										Temperature: 25° C											
Attendees: None										Humidity: 31%											
Project: None										Barometric Pres.: 30.05											
Tested by: Rod Peloquin					Power: 120VAC/60Hz					Job Site: EV01											
TEST SPECIFICATIONS										Test Method											
FCC 15.247 (DTS):2006										ANSI C63.4:2003 KDB No. 558074											
TEST PARAMETERS																					
Antenna Height(s) (m)					1 - 4					Test Distance (m)					3						
COMMENTS																					
EUT OPERATING MODES																					
Transmit mode, Bluetooth																					
DEVIATIONS FROM TEST STANDARD																					
No deviations.																					
Run #					6																
Configuration #					4																
Results					Pass																
																					
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments								
4804.010	42.1	7.4	51.0	1.0	3.0	0.0	V-Horn	AV	0.0	49.5	54.0	-4.5	Low channel, DH5, EUT vertical								
4879.715	39.8	7.7	36.0	1.1	3.0	0.0	V-Horn	AV	0.0	47.5	54.0	-6.5	Mid channel, DH5, EUT vertical								
4804.005	38.4	7.4	31.0	1.1	3.0	0.0	H-Horn	AV	0.0	45.8	54.0	-8.2	Low channel, DH5, EUT vertical								
4880.025	36.6	7.7	30.0	1.1	3.0	0.0	H-Horn	AV	0.0	44.3	54.0	-9.7	Mid channel, DH5, EUT vertical								
4960.015	34.3	8.0	108.0	1.6	3.0	0.0	V-Horn	AV	0.0	42.3	54.0	-11.7	High channel, DH5, EUT vertical								
4803.922	31.4	7.4	308.0	1.2	3.0	0.0	H-Horn	AV	0.0	38.8	54.0	-15.2	Low channel, DH5, EUT on side								
4803.758	50.7	7.4	31.0	1.1	3.0	0.0	H-Horn	PK	0.0	58.1	74.0	-15.9	Low channel, DH5, EUT vertical								
4804.112	50.7	7.4	51.0	1.0	3.0	0.0	V-Horn	PK	0.0	58.1	74.0	-15.9	Low channel, DH5, EUT vertical								
4960.008	29.9	8.0	320.0	1.2	3.0	0.0	H-Horn	AV	0.0	37.9	54.0	-16.1	High channel, DH5, EUT vertical								
4803.950	29.4	7.4	34.0	1.0	3.0	0.0	V-Horn	AV	0.0	36.8	54.0	-17.2	Low channel, DH5, EUT on side								
4879.848	48.5	7.7	36.0	1.1	3.0	0.0	V-Horn	PK	0.0	56.2	74.0	-17.8	Mid channel, DH5, EUT vertical								
4803.858	48.1	7.4	308.0	1.2	3.0	0.0	H-Horn	PK	0.0	55.5	74.0	-18.5	Low channel, DH5, EUT on side								
4880.112	45.0	7.7	30.0	1.1	3.0	0.0	H-Horn	PK	0.0	52.7	74.0	-21.3	Mid channel, DH5, EUT vertical								
4960.150	44.3	8.0	108.0	1.6	3.0	0.0	V-Horn	PK	0.0	52.3	74.0	-21.7	High channel, DH5, EUT vertical								
4803.472	44.3	7.4	34.0	1.0	3.0	0.0	V-Horn	PK	0.0	51.7	74.0	-22.3	Low channel, DH5, EUT on side								
4959.808	41.6	8.0	320.0	1.2	3.0	0.0	H-Horn	PK	0.0	49.6	74.0	-24.4	High channel, DH5, EUT vertical								

NORTHWEST		SPURIOUS RADIATED EMISSIONS		PSA 2007.05.07									
EMC				EMI 2006.12.20									
EUT: ST Micro STLC2500C in Eagle		Work Order: TRPO0034											
Serial Number: Unknown		Date: 06/25/07											
Customer: Tripod Data Systems, Inc.		Temperature: 25° C											
Attendees: None		Humidity: 31%											
Project: None		Barometric Pres.: 30.05											
Tested by: Rod Peloquin		Power: 120VAC/60Hz		Job Site: EV01									
TEST SPECIFICATIONS		Test Method											
FCC 15.247 (DTS):2006		ANSI C63.4:2003 KDB No. 558074											
TEST PARAMETERS													
Antenna Height(s) (m)		1 - 4		Test Distance (m) 3									
COMMENTS													
EUT OPERATING MODES													
Transmit mode, Bluetooth, High channel													
DEVIATIONS FROM TEST STANDARD													
No deviations.													
Run #		7		Signature 									
Configuration #		4											
Results		Pass											
													
Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)	Comments
2482.827	25.8	0.4	255.0	1.2	3.0	20.0	H-Horn	AV	0.0	46.2	54.0	-7.8	2DH5 Modulation, EUT vertical
2482.607	25.5	0.4	255.0	1.2	3.0	20.0	H-Horn	AV	0.0	45.9	54.0	-8.1	3DH5 Modulation, EUT horizontal
2482.617	25.3	0.4	281.0	1.0	3.0	20.0	H-Horn	AV	0.0	45.7	54.0	-8.3	2DH5 Modulation, EUT horizontal
2482.777	25.3	0.4	225.0	1.0	3.0	20.0	V-Horn	AV	0.0	45.7	54.0	-8.3	3DH5 Modulation, EUT vertical
2483.027	25.3	0.4	127.0	1.0	3.0	20.0	V-Horn	AV	0.0	45.7	54.0	-8.3	DH5 Modulation, EUT horizontal
2483.467	25.3	0.4	111.0	1.0	3.0	20.0	V-Horn	AV	0.0	45.7	54.0	-8.3	2DH5 Modulation, EUT horizontal
2482.583	25.2	0.4	85.0	1.2	3.0	20.0	H-Horn	AV	0.0	45.6	54.0	-8.4	3DH5 Modulation, EUT vertical
2483.173	25.2	0.4	10.0	1.0	3.0	20.0	V-Horn	AV	0.0	45.6	54.0	-8.4	3DH5 Modulation, EUT horizontal
2483.453	25.2	0.4	43.0	1.0	3.0	20.0	V-Horn	AV	0.0	45.6	54.0	-8.4	2DH5 Modulation, EUT vertical
2484.180	25.2	0.4	157.0	1.0	3.0	20.0	H-Horn	AV	0.0	45.6	54.0	-8.4	DH5 Modulation, EUT horizontal
2484.817	25.2	0.4	193.0	1.2	3.0	20.0	H-Horn	AV	0.0	45.6	54.0	-8.4	DH5 Modulation, EUT vertical
2485.847	25.2	0.4	135.0	1.1	3.0	20.0	V-Horn	AV	0.0	45.6	54.0	-8.4	DH5 Modulation, EUT vertical
2485.410	39.5	0.4	157.0	1.0	3.0	20.0	H-Horn	PK	0.0	59.9	74.0	-14.1	DH5 Modulation, EUT horizontal
2484.530	39.4	0.4	135.0	1.1	3.0	20.0	V-Horn	PK	0.0	59.8	74.0	-14.2	DH5 Modulation, EUT vertical
2484.837	39.4	0.4	255.0	1.2	3.0	20.0	H-Horn	PK	0.0	59.8	74.0	-14.2	3DH5 Modulation, EUT horizontal
2483.727	39.1	0.4	255.0	1.2	3.0	20.0	H-Horn	PK	0.0	59.5	74.0	-14.5	2DH5 Modulation, EUT vertical
2485.270	39.1	0.4	193.0	1.2	3.0	20.0	H-Horn	PK	0.0	59.5	74.0	-14.5	DH5 Modulation, EUT vertical
2483.920	39.0	0.4	225.0	1.0	3.0	20.0	V-Horn	PK	0.0	59.4	74.0	-14.6	3DH5 Modulation, EUT vertical
2485.133	38.8	0.4	43.0	1.0	3.0	20.0	V-Horn	PK	0.0	59.2	74.0	-14.8	2DH5 Modulation, EUT vertical
2483.910	38.7	0.4	10.0	1.0	3.0	20.0	V-Horn	PK	0.0	59.1	74.0	-14.9	3DH5 Modulation, EUT horizontal







