Appendix C

To

FCC Correspondence Reference Number 7111

Revised Pages to the KTL Test Report

Bosch Telecom CPE Roof Unit Transceiver

FCC ID: NNS3214864

FCC Form 731 Confirmation Number: EA92818

April 23, 1999

C. TEST PROCEDURE (Continued)

The antennas were vertically and then horizontally polarized. The antenna height was set at 1 meter. The microwave radiated-emissions amplitudes were measured at various azimuthal orientations in order to maximize amplitudes. Cables were oriented to maximize the field strength amplitudes.

Unless otherwise specified, broadband antennas were used. Standard broadband antennas used were selected from the following: Biconical 30 MHz - 300 MHz, Log Periodic 0.3 GHz - 1 GHz and Horn 1 GHz - 40 GHz. For measurements (up to 1 GHz) that were close to the limit, a tuned dipole antenna may have been used.

FREQUENCY STABILITY

Frequency Stability was measured at the KTL Dallas, Inc. Environmental Chamber in TX 28.225 GHz configuration at voltages, 40.8 Vdc, 48.0 Vdc and 55.2 Vdc, with the following temperatures: -30ºC, -20ºC, -10ºC, 0ºC, 10 Cº, 20ºC, 30ºC, 40ºC, and 50ºC.

D. TEST RESULTS

TEST	CATEGORY	PASS/ FAIL
FCC Part 101/2		
RF Power Spectral Density	Part 101 (2.985) – 28.107 GHz	Pass
Modulation Characteristics	Part 101 (2.987) –28.107 GHz , 28.225 GHz, 28.345 GHz	N/A
Occupied Bandwidth	Part 101 (2.989)– 28.107 GHz , 28.225 GHz, 28.345 GHz	N/A
Spurious Emissions at Antenna Terminals	Part 101 (2.991) – 30 MHz-26 GHz, 26 GHz-40 GHz, 40 GHz-100 GHz	Pass
Field Strength of Spurious Radiated Emissions	Part 101 (2.993) – 30 MHz – 100 GHz	Pass
Frequency Stability	Part 101 (2.995) –28.225 GHz	Pass

The worst-case data are tabulated in Tables D-I, D-II, D-III, D-IV, D-V, D-VI, D-VII, and D-VIII.

The test data are contained in Appendix B of this report.

The RF power spectral density data for the CPE Roof Unit are labeled Tests RF Power, RF Power Spectral Density (1/2 Rate), RF Power Spectral Density (3/4 Rate), and RF Power Spectral Density (7/8Rate) dated October 30, 1998 and for the CPE Network Interface Unit are labeled Tests RF Power Spectral Density (1/2 Rate), RF Power Spectral Density (3/4 Rate), and RF Power Spectral Density (7/8Rate) dated October 30, 1998.

The modulation characteristics plots for the Actual QPSK signal are labeled Actual QPSK 1/2 Rate, Actual QPSK 3/4 Rate, and Actual QPSK 7/8 Rate dated June 5, 1998.

The modulation characteristics data plots for the Simulated QPSK signal are labeled Simulated QPSK for Configuration: Center 28.10700 GHz, Configuration: Center 28.22500, and Configuration: Center 28.34500 GHz dated June 5, 1998.

The occupied bandwidth data plots for the Actual QPSK signal are labeled Actual QPSK 1/2 Rate, Actual QPSK 3/4 Rate, and Actual QPSK 7/8 Rate dated June 5, 1998.

The occupied bandwidth data plots for the Simulated QPSK signal are labeled Simulated QPSK for Configuration: Center 28.10700 GHz, Configuration: Center 28.22500, and Configuration: Center 28.34500 GHz dated June 5, 1998.

The spurious emissions at antenna terminals data for the Actual QPSK Signal are labeled Tests # 036V4, # 036V5, and # 036V6 dated June 11, 1998, and Tests # 036V4A # 036V4b, # 036V5A, # 036V5b, # 036V6A, and # 036V6b dated June 24, 1998.

D. TEST RESULTS (Continued)

The spurious emissions at antenna terminals data for the Simulated QPSK Signal are labeled Tests # 036V1, # 036V1b, # 036V2, and # 036V3 dated June 11, 1998, Tests # 036V01A and # 036V3A dated June 24, 1998, and Tests # 036V2A, # 036V3B, and # 036V2C dated June 25, 1998.

The field strength of spurious radiated emissions data sheets (Scan: 30 MHz- 1000 MHz) for the Actual QPSK Signal are labeled Tests # RE8, and # RE9 dated May 18, 1998 and Tests # RE9A and # RE-10 dated May 19, 1998. The field strength of spurious radiated emissions data sheets (Scan: 1 GHz- 100 GHz) for the Actual QPSK Signal are also labeled Tests # MW-8, # MW-8a, # MW –8c, # MW-9, # MW-9a, # MW-10, and # MW-10a dated May 15, 1998, and Tests # MW-8b, # MW-9b, # MW-9c, # MW-10b, and # MW-10c dated May 18, 1998, Tests # MW-8D, # MW 9c, # MW-9D, and # MW-10D dated May 19, 1998, and Tests # MW-8G, # MW-8H, and # MW-9f, dated June 10, 1998,

The field strength of spurious radiated emissions data sheets (Scan: 30 MHz- 1000 MHz) for the Simulated QPSK Signal are labeled Tests # RE-01 and # RE-03 dated May 1, 1998 and # RE-02 and RE-03A dated May 4, 1998. The field strength of spurious radiated emissions data sheets (Scan: 1 GHz- 100 GHz) for the Simulated QPSK Signal are also labeled Tests # MW-01 and # MW-02 dated April 30, 1998, Tests 3 # MW-01A # MW-03, and # MW-03A dated May 1, 1998, Test # MW-2A dated May 4, 1998, Tests # MW-1A, # MW-1B, # MW-3A, and MW 3d dated May 5, 1998, Tests # MW-2B, # MW-3B, and # MW-3C dated May 6, 1998, Tests # MW-1C, # MW-2C and # MW-3E dated May 7, 1998, and Tests # MW-1D, # MW-2D and # MW-3F dated June 10, 1998

The frequency stability data sheets are labeled Frequency Stability (Configuration 28.225000 GHz) dated April 28, 1998.

RF power spectral density data are tabulated in Table D-I. The spurious emissions at antenna terminals data for Actual QPSK Signal are tabulated in Table D-II and the spurious emissions at antenna terminals data for Simulated QPSK Signal are tabulated in Table D-III. The field strength of spurious radiated emissions data (30 MHz – 1000 MHz) for Actual QPSK Signal are tabulated in Table D-IV and the field strength of spurious radiated emissions data (Scan: 30 MHz – 1000 MHz) for Simulated QPSK Signal are tabulated in Table D-V. The field strength of spurious radiated emissions data (1 GHz - 100 GHz) for Actual QPSK Signal are tabulated in Table D-VI and the field strength of spurious radiated emissions data (1 GHz - 100 GHz) for Simulated QPSK Signal are tabulated in Table D-VII. Frequency stability data are tabulated in Table D-VIII.

Figure D-1 contains photographs of RF power spectral density test set-up. Figure D-2 contains photographs of the modulation characteristics and Figure D-3 contains photographs of the occupied band width test set-ups. Figure D- 4 contains photographs of the spurious emissions at antenna terminals test set-ups. Figure D-5 contains photographs of the field strength of spurious radiated emissions for Actual QPSK Signal (Scan 30 MHz –1000 MHz) test set-ups and Figure D-6 contains photographs of the field strength of spurious radiated emissions Simulated QPSK Signal (Scan 30 MHz –1000 MHz) test set-ups. Figure D-7 contains photographs of the field strength of spurious radiated emissions for the Actual QPSK Signal (Scan 1 GHz –100 GHz) test set-ups and Figure D-8 contains photographs of the field strength of spurious radiated emissions for the Simulated QPSK Signal (Scan 1GHz –100 GHz) test set-ups. Figures D-9 contains photographs of the frequency stability test set-ups. Figure D-10 contains photographs of radiated emissions test set-ups.

D. TEST RESULTS (Continued)

- ***TEST RESULTS SUMMARY***

The test results confirm that the RF power spectral density, spurious emissions at antenna terminals, field strength of spurious radiated emissions and frequency stability amplitudes are within the FCC Part 101 and FCC Part 2 requirements. The modulation characteristics and occupied bandwidths were tested to the FCC Part 101 and FCC Part 2 requirements.

D. TEST RESULTS (Continued)

- **SAMPLE CALCULATIONS**

RF Power Spectral Density (Refer to Page # 21 Test # CPE Roof Unit ½ Rate)

Test #: CPE Roof Unit 1/2 Rate	Frequency: 28.170 GHz			Channel Bandwidth: 2.04 MHz		
		Conversions				
Analyzer (dBm/Hz)	Attenuation (dB)	Hz to MHz (dB)	dBm to dBW (dB)	Antenna Gain (dBi)	Corrected Reading dBW/MHz)	Limit dBW/MHz
-72.2	22.2	60.0	-30	38.0	18	42.0

The calculation proceeds as follows: Analyzer Reading (dBm/Hz) + Attenuation (dB) + Conversion Factor (dB) = Correction Read (dBW/MHz).

Spurious Emissions at Antenna Terminals (Refer to Page # 28 Test # 036V4A)

Test #: 036V4A	Frequency: .960 GHz		Power Line: At Antenna Terminals		
Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	4 kHz RBW Correction Factor (dB)	Corrected Reading (dBm)	Limit dBm
-70.0	20	1.0	-24.0	-73.0	-13.0

The calculation proceeds as follows: Meter Reading (dBm) + Attenuation (dB) + Cable Loss (dB) + Correction Factor (dB) = Voltage (dBm).

4 kHz RBW Correction Factor Calculation:

Ratio BW / [10 x log (RBW1/RBW2)] = - 23.979 = - 24.0 dB.

dBc Limit Calculation:

$A = 43\ dB + 10 \log_{10} M0PW = -13\ dB$

D. TEST RESULTS (Continued)

Field Strength of Spurious Radiated (30 MHz-1000 MHz) [Refer to Page # 37 Test # RE-10]

Test #: RE-10	Frequency:	33.400 MHz	Polarization:	Vertical	Spec Limit	Delta
Meter Reading (dBµV)	Antenna Factor (dB)	Path Loss (dB)	Amplifier Gain (dB)	Field Strength (dBµV/m)	Field Strength (dBµV/m)	(dB)
59.0	11.3	1.4	25.0	46.7	84.6	-37.9

The calculations proceed as follows: Meter Reading (dBµV) + Antenna Factor (dB) + Path Loss (dB) - Amplifier Gain (dB) = Field Strength (dBµV/m).

When the emission level is less than 6 dB above the ambient noise floor, the antenna is moved closer to the EUT. A 3-meter measurement level is compared with a 10-meter limit by extrapolating the limit to a 3-meter distance. One adds a factor of 10.5 dB to the limit, which is derived from:

Correction Factor (dB) = 20 log (10 m/3 m) = 10.5 dB

e.g., Limit @ 10 m = 30 dBµV/m @ 10 m
Limit @ 3 m = 40.5 dBµV/m @ 3 m

Similarly, a 10-meter limit is extrapolated to a specified 30-meter limit by use of a correction factor of 20 log (10 m/30 m) = -9.5 dB.

Field Strength of Spurious Radiated Emissions (1 GHz-100 MHz) [Refer to Page # 50 Test # MW-10D]

Test #	MW-10D	Frequency:	1.557 GHz	Polarization:	Vertical		
Meter Reading (dBµV)	4 kHz RBW Correction Factor (dB)	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Corrected Reading (dBµV/m)	DBc	dBc Limit
21.0	-24	25.1	1.7	22.5	1.3	-116.3	-33.0

The calculations proceed as for RF Radiated Emissions, except for the added conversion factor.

4 kHz RBW Correction Factor Calculation:

Ratio BW / [10 x log (RBW1/RBW2)] =23.979 = - 24.0 dBm.

dBc Limit Calculation:

$A = 43 + 10 \log_{10} M0PW = 33$ dB

Field Intensity (equivalent to 0.1 W into tuned dipole) = 20.0 dBm - 28.87 + 116 + 10.5 = 117.63 dBuV/m

Where:

A is the attenuation factor below the carrier level.
M0PW is the maximum output power in watts (0.1 W).
-28.7 dBm/m^2 is the power density resulting from a 1 milliwatt signal radiating from half-wave dipole antenna at a distance of 10 meters.
116 is the conversion from dBm/m^2 to dBuV/m
10.5 dB is the extrapolation from 10 meters to 3 meters.

TABLE D-I. RF POWER SPECTRAL DENSITY DATA

RF POWER CPE ROOF UNIT [Refer to Appendix B Page # 105]

Frequency GHZ	Power Reading dBm	External Attenuation dB	Conversion dBm to dBW	Antenna Gain dBi	Corrected Reading dBW	Limit dBW	Delta dB
28.27093	20	0	-30	38	28	55	-27

CPE ROOF UNIT QPSK (1/2 RATE) [Refer to Appendix B Page # 109]

Center Frequency GHZ	Channel Bandwidth	Analyzer Reading dBm/Hz	External Attenuation dB	Conversions		Antenna Gain dBi	Corrected Reading dBW/MHz	FCC Limit 101.113 dBW/MHz	Delta dB
				Hz to MHz (dB)	dBm to dBW (dB)				
28.105	2.04	-72.2	22.2	60	-30	38	18	42	-24
28.225	2.04	-70.8	22.2	60	-30	38	19.4	42	-22.6
28.345	2.04	-70.5	22.2	60	-30	38	19.7	42	-22.3

CPE ROOF UNIT QPSK (3/4 RATE) [Refer to Appendix B Page # 110]

Center Frequency GHZ	Channel Bandwidth	Analyzer Reading dBm/Hz	External Attenuation dB	Conversions		Antenna Gain dBi	Corrected Reading dBW/MHz	FCC Limit 101.113 dBW/MHz	Delta dB
				Hz to MHz (dB)	dBm to dBW (dB)				
28.105	1.359	-70.6	22.2	60	-30	38	19.6	42	-22.4
28.225	1.359	-71.1	22.2	60	-30	38	19.1	42	-22.9
28.345	1.359	-70.1	22.2	60	-30	38	20.1	42	-21.9

CPE ROOF UNIT QPSK (7/8 RATE) [Refer to Appendix B Page # 111]

Center Frequency GHZ	Channel Bandwidth	Analyzer Reading dBm/Hz	External Attenuation dB	Conversions		Antenna Gain dBi	Corrected Reading dBW/MHz	FCC Limit 101.113 dBW/MHz	Delta dB
				Hz to MHz (dB)	dBm to dBW (dB)				
28.105	1.165	-69.9	22.2	60	-30	38	20.3	42	-21.7
28.225	1.165	-70	22.2	60	-30	38	20.2	42	-21.8
28.345	1.165	-72.1	22.2	60	-30	38	18.1	42	-23.9

CPE NETWORK INTERFACE UNIT (1/2 RATE) [Refer to Appendix B Page # 106]

Center Frequency GHZ	Channel Bandwidth	Analyzer Reading dBm/Hz	External Attenuation dB	Conversions		Antenna Gain dBi	Corrected Reading dBW/MHz	FCC Limit 101.113 dBW/MHz	Delta dB
				Hz to MHz (dB)	dBm to dBW (dB)				
28.10593	2.04	-70.6	22.2	60	-30	38	19.6	42	-22.4
28.22593	2.04	-71.3	22.2	60	-30	38	18.9	42	-23.1
28.34593	2.04	-70.4	22.2	60	-30	38	19.8	42	-22.2

D. TEST RESULTS (Continued)

CPE NETWORK INTERFACE UNIT (3/4 RATE) [Refer to Appendix B Page # 107]

Center Frequency GHZ	Channel Bandwidth	Analyzer Reading dBm/Hz	External Attenuation dB	Conversions		Antenna Gain dBi	Corrected Reading dBW/MHz	FCC Limit 101.113 dBW/MHz	Delta dB
				Hz to MHz (dB)	dBm to dBW (dB)				
28.10593	1.359	-68.8	22.2	60	-30	38	21.4	42	-20.6
28.22593	1.359	-69.2	22.2	60	-30	38	21	42	-21
28.34593	1.359	-69.2	22.2	60	-30	38	21	42	-21

CPE NETWORK INTERFACE QPSK (7/8 RATE) [Refer to Appendix B Page # 108]

Center Frequency GHZ	Channel Bandwidth	Analyzer Reading dBm/Hz	External Attenuation dB	Conversions		Antenna Gain dBi	Corrected Reading dBW/MHz	Limit 101.113 dBW/MHz	Delta dB
				Hz to MHz (dB)	dBm to dBW (dB)				
28.10593	1.165	-67.4	22.2	60	-30	38	22.8	42	-19.2
28.22593	1.165	-68.3	22.2	60	-30	38	21.9	42	-20.1
28.34593	1.165	-67.5	22.2	60	-30	38	22.7	42	-19.3

1) Data contained in Appendix B- Tests RF Power CPE Roof Unit, Test RF Power Spectral Density CPE Roof Unit QPSK (1/2 Rate), RF Power Spectral Density CPE Roof Unit QPSK (3/4 Rate), Test RF Power Spectral Density CPE Roof Unit QPSK (7/8 Rate), Test RF Power Spectral Density CPE Network Interface Unit (1/2 Rate), Test RF Power Spectral Density CPE Network Interface Unit (3/4 Rate), and Test RF Power Spectral Density CPE Network Interface Unit (7/8 Rate) dated 10/30/98.

2) Refer to Page # 112 – Page # 117 for measured data.

TABLE D-II. SPURIOUS EMISSIONS AT ANTENNA TERMINALS DATA FOR ACTUAL QPSK SIGNAL

Scan 30 MHz-26 GHz (Refer to Appendix B Page # 171)

Test # 036V4A, Configuration: TX 28.107 GHz (LOWER FREQUENCY) 20.0dBm (ACTUAL QPSK), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Reading (dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
.960	-70.0	20.0	1.0	-73.0	-13.0	60.0	1,2
1.556	-70.0	20.0	1.0	-73.0	-13.0	60.0	1,2
3.112	-71.0	20.0	1.0	-74.0	-13.0	61.0	1,2
4.668	-71.0	20.0	1.0	-74.0	-13.0	61.0	1,2

Scan 26 GHz-40 GHz (Refer to Appendix B Page # 172)

Test #036V4, Configuration: TX 28.107 GHz (LOWER FREQUENCY) 20.0dBm (ACTUAL QPSK), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Reading (dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
26.550	-55.8	19.0	6.3	-54.5	-36.0	18.5	1,3
28.080	-48.2	19.0	7.8	-45.3	-36.0	9.3	1,4
28.132	-51.5	19.0	7.8	-48.7	-36.0	12.7	1,4

* In-band

Scan 40 GHz- 100 GHz (Refer to Appendix B Page # 173)

Test # 036V4b, Configuration: TX 28.107 GHz (LOWER FREQUENCY) 20.0dBm (ACTUAL QPSK), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Reading (dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
53.100	-77.0	20.0	1.0	-80.0	-13.0	67.0	1,2
56.189	-77.0	20.0	1.0	-80.0	-13.0	67.0	1,2
56.214	-41.8	20.0	1.0	-44.8	-13.0	31.8	1,5
56.239	-75.0	20.0	1.0	-54.0	-13.0	41.0	1,4
79.650	-72.0	20.0	1.0	-51.0	-13.0	38.0	1,6
84.321	-49.0	20.0	1.0	-52.0	-13.0	39.0	1,7

D. TEST RESULTS (Continued)

Scan 30 MHz-26 GHz (Refer to Appendix B Page # 174)

Test # 036V5A, Configuration: TX 28.225 GHz (CENTER FREQUENCY) 20.0dBm (ACTUAL QPSK), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Reading (dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
.960	-70.0	20.0	1.0	-73.0	-13.0	60.0	1,2
1.674	-70.0	20.0	1.0	-73.0	-13.0	60.0	1,2
3.348	-71.0	20.0	1.0	-74.0	-13.0	61.0	1,2
5.022	-72.0	20.0	1.0	-75.0	-13.0	62.0	1,2

Scan 26 GHz-40 GHz (Refer to Appendix B Page # 175)

Test # 036V5, Configuration: TX 28.225 GHz (CENTER FREQUENCY) 20.0dBm (ACTUAL QPSK), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Reading dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
26.550	-55.70	19.0	6.3	-54.4	-36.0	18.4	1,3
28.200	-48.50	19.0	7.8	-45.7	-36.0	9.7	1,4
28.250	50.50	19.0	7.8	-54.4	-36.0	18.4	1,4

Scan 40 GHz-100 GHz (Refer to Appendix B Page # 176)

Test # 036V5b, Configuration: TX 28.225 GHz (CENTER FREQUENCY) 20.0dBm (ACTUAL QPSK), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Reading (dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
53.100	-77.0	20.0	1.0	-80.0	-13.0	67.0	1,2
56.425	-72.0	20.0	1.0	-51.0	-13.0	38.0	1,4
56.450	-35.0	20.0	1.0	-38.0	-13.0	25.0	1,5
56.475	-71.6	20.0	1.0	50.6	-13.0	37.6	1,4
79.650	-72.0	20.0	1.0	-75.0	-13.0	62.0	1,2
84.675	-51.5	20.0	1.0	-54.5	-13.0	41.5	1,7

D. TEST RESULTS (Continued)

Scan 30 MHz-26 GHz (Refer to Appendix B Page # 179)

Test # 036V6A, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 20.0dBm (ACUTAL QPSK), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Reading (dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
.960	-70.0	20.0	1.0	-73.0	-13.0	60.0	1,2
1.794	-70.0	20.0	1.0	-73.0	-13.0	60.0	1,2
3.588	-71.0	20.0	1.0	-74.0	-13.0	61.0	1,2
5.382	-72.0	20.0	1.0	-75.0	-13.0	62.0	1,2

Scan 26 GHz-40 GHz (Refer to Appendix B Page # 177)

Test # 036V6, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 20.0dBm (ACTUAL QPSK), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Reading (dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
26.550	-55.2	19.0	6.3	-53.9	-36.0	17.9	1,3
28.320	-48.5	19.0	7.8	-45.7	-36.0	9.7	1,4
28.370	-56.2	19.0	7.8	-47.3	-36.0	11.3	1,4

Scan 40 GHz-100 GHz (Refer to Appendix B Page # 178)

Test # 036V6b, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 20.0dBm (ACTUAL QPSK), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Reading (dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
53.100	-77.0	20.0	1.0	-80.0	-13.0	67.0	1,2
56.665	-71.0	20.0	1.0	-50.0	-13.0	37.0	1,4
56.690	-42.0	20.0	1.0	-45.0	-13.0	32.0	1,5
56.715	-76.6	20.0	1.0	-55.6	-13.0	42.6	1,4
79.650	-72.0	20.0	1.0	-75.0	-13.0	62.0	1,2
85.035	-62.2	20.0	1.0	-65.2	-13.0	52.2	1,7

D. TEST RESULTS (Continued)

Comments:

1) Data contained in Appendix B - Tests # 036V4, # 036V5, and # 036V6 (06/11/98) and Tests # 036V4A, # 036V4b, # 036V5A, # 036V5b, # 036V6A and # 036Vb (06/24/98).

2) Noise floor reading.

3) L/O (CW Signal)

4) CW Signal

5) Second Harmonic of Fundamental

6) Harmonic of L/O

7) Third Harmonic of Fundamental

Note:

*Calculations may not agree exactly with data due to rounding of numbers.

4 kHz RBW correction factor of –24 dB was added to the formula (refer to sample calculations).

Amplitudes were measured using the peak detector. Reference detector specified in the limit is the peak detector.

TABLE D-III. SPURIOUS EMISSIONS AT ANTENNA TERMINALS DATA FOR SIMULATED QPSK SIGNAL

Scan 30 MHz-26 GHz (Refer to Appendix B Page # 181)

Test #036V01A, Configuration: TX 28.107 GHz (LOWER FREQUENCY) 20.0dBm (SIMULATED QPSK), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Reading (dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
.960	-70.0	0	1.0	-93.0	-13.0	80.0	1,2
1.556	-70.0	0	1.0	-93.0	-13.0	80.0	1,2
3.112	-71.0	0	1.0	-94.0	-13.0	81.0	1,2
4.668	-72.0	0	1.0	-95.0	-13.0	82.0	1,2

Scan 26 GHz-40 GHz (Refer to Appendix B Page # 182)

Test # 036V1, Configuration: TX 28.107 GHz (LOWER FREQUENCY) 20.0dBm (SIMULATED QPSK), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Peak (dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
26.550	-56.0	19.0	6.3	-30.7	-13.0	17.7	1,3

Scan 40 GHz-100 GHz (Refer to Appendix B Page # 183)

Test #036V1B, Configuration: TX 28.107 GHz (LOWER FREQUENCY) 20.0dBm (SIMULATED QPSK), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Reading (dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
53.100	-77.00	20	1.0	-80.0	-13	67.0	1,2
56.210	-37.00	20	1.0	-40.0	-13	27.0	1,5
79.600	-72.00	20	1.0	-75.0	-13	62.0	1,2
84.321	-51.5	20	1.0	-54.5	-13	41.5	1,7

D. TEST RESULTS (Continued)

Scan 30 MHz-26 GHz (Refer to Appendix B Page # 184)

Test # 036V2A, Configuration: TX 28.225 GHz (CENTER FREQUENCY) 20.0dBm (SIMULATED QPSKI), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Reading (dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
.960	-70.0	20.0	1.0	-73.0	-13.0	60.0	1,2
1.674	-70.0	20.0	1.0	-73.0	-13.0	60.0	1,2
3.348	-71.0	20.0	1.0	-74.0	-13.0	61.0	1,2
5.022	-72.0	20.0	1.0	-75.0	-13.0	62.0	1,2

Scan 26 GHz- 40 GHz (Refer to Appendix B Page # 185)

Test # 036V2, Configuration: TX 28.225 GHz (CENTER FREQUENCY) 20.0dBm (SIMULATED QPSK), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Reading (dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
26.550	-56.0	19.0	6.3	-54.7	-36.0	18.7	1,3

Scan 40 GHz-100 GHz (Refer to Appendix B Page # 186)

Test # 036V2C, Configuration: TX 28.225 GHz (CENTER FREQUENCY) 20.0dBm (SIMULATED QPSK), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Reading (dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
53.100	-77.0	20.0	1.0	-56.0	-13.0	43.0	1,2
56.450	-37.0	20.0	1.0	-40.0	-13.0	27.0	1,5
79.650	-72.0	20.0	1.0	-75.0	-13.0	62.0	1.2
84.675	-51.5	20.0	1.0	-54.5	-13.0	41.5	1,6

D. TEST RESULTS (Continued)

Scan 30 MHz-26 GHz (Refer to Appendix B Page # 187)

Test # 036V3A, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 20.0dBm (SIMULATED QPSK), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Reading (dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
.960	-70.0	20.0	1.0	-73.0	-13.0	60.0	1,2
1.794	-70.0	20.0	1.0	-73.0	-13.0	60.0	1,2
3.588	-71.0	20.0	1.0	-74.0	-13.0	61.0	1,2
5.382	-72.0	20.0	1.0	-75.0	-13.0	62.0	1,2

Scan 26 GHz-40 GHz (Refer to Appendix B Page # 188)

Test # 036V3, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 20.0dBm (SIMULATED QPSK), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Reading (dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
26.550	-54.5	19.0	6.3	-53.2	-36.0	17.2	1,3

Scan 40 GHz-100 GHz (Refer to Appendix B Page # 189)

Test # 036V3B, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 20.0dBm (SIMULATED QPSK), 16 Vdc

Frequency (MHz)	Meter Reading (dBm)	Attenuation (dB)	Cable Loss (dB)	Corrected Reading (dBm)	FCC 2.991 Limit (dBm)	Margin* (dB) (Limit-Amplitude)	Comments
53.100	-77.0	20.0	1.0	-80.0	-13.0	67.0	1,2
56.690	-42.0	20.0	1.0	-45.0	-13.0	32.0	1
79.650	-72.0	20.0	1.0	-75.0	-13.0	62.0	1,2
85.035	-62.2	20.0	1.0	-65.2	-13.0	52.2	1

D. TEST RESULTS (Continued)

Comments:

1) Data contained in Appendix B - Tests # 036V1, # 036V1B, # 036V2, and # 036V3 (06/11/98), Tests # 036V01A and # 036VA (06/24/98) and Tests # 036V2A, # 036V2C and # 036V3B (06/25/98).

2) Noise floor reading.

3) L/O (CW Signal)

4) CW Signal

5) Second Harmonic of Fundamental

6) Third Harmonic of L/O

7) Third Harmonic of Fundamental

Note:

*Calculations may not agree exactly with data due to rounding of numbers.

4 kHz RBW correction factor of - 24 dB was added to the formula (refer to sample calculations).

Amplitudes were measured using the peak detector. Reference detector specified in the limit is the peak detector.

TABLE D-IV WORST-CASE FIELD STRENGTH OF SPURIOUS RADIATED EMISSIONS DATA FOR ACTUAL QPSK SIGNAL (SCAN: 30 MHz - 1000 MHz)

(Refer to Appendix B Pages # 191 - #192)

Test # RE-10, Configuration: TX 28.107 GHz (Lower Frequency) 20.0dBm (Actual QPSK Signal), 16 Vdc

Frequency (MHz)	Amplitude Q.P. (dBµV/m)	FCC 2.993. Limit (dBµV/m)	Margin* (dB) (Limit-Amplitude)	Polarization Vertical/ Horizontal	Comments
33.400	46.7	84.6	37.9	Vertical	1,2
104.020	41.9	84.6	42.7	Vertical	1,2
113.760	41.6	84.6	43.0	Vertical	1,2
104.020	48.4	84.6	36.2	Horizontal	1,2
113.650	43.6	84.6	41.0	Horizontal	1,2
120.000	43.0	84.6	41.6	Horizontal	1,2

(Refer to Appendix B Page # 193 – Page # 194)

Test # RE9A, Configuration: TX 28.225 GHz (Center Frequency) 20.0dBm (Actual QPSK), 16 Vdc

Frequency (MHz)	Amplitude Q.P. (dBµV/m)	FCC 2.993. Limit (dBµV/m)	Margin* (dB) (Limit-Amplitude)	Polarization Vertical/ Horizontal	Comments
33.400	45.7	84.6	38.9	Vertical	1,2
73.500	38.1	84.6	46.5	Vertical	1,2
104.020	41.9	84.6	42.7	Vertical	1,2
104.020	42.9	84.6	41.7	Horizontal	1,2
133.700	43.4	84.6	41.2	Horizontal	1,2
173.800	41.7	84.6	42.9	Horizontal	1,2

(Refer to Appendix B Page # 195)

Test # RE9, Configuration: TX 28.225 GHz (Center Frequency) 20.0dBm (Actual QPSK), 16 Vdc

Frequency (MHz)	Amplitude Q.P. (dBµV/m)	FCC 2.991. Limit (dBµV/m)	Margin* (dB) (Limit-Amplitude)	Polarization Vertical/ Horizontal	Comments
328.000	27.7	84.6	56.9	Vertical	1,2
632.000	39.5	84.6	45.1	Vertical	1,2
960.000	33.3	84.6	51.3	Vertical	1,2
328.000	30.7	84.6	53.9	Horizontal	1,2
632.000	38.5	84.6	46.1	Horizontal	1,2
960.000	33.3	84.6	51.3	Horizontal	1,2

D. TEST RESULTS (Continued)

(Refer to Appendix B Page # 196 – Page # 197)

Test # RE8, Configuration: TX 28.345 GHz (Higher Frequency) 20.0dBm (Actual QPSK), 16 Vdc

Frequency (MHz)	Amplitude Q.P. (dBµV/m)	FCC 2.991. Limit (dBµV/m)	Margin* (dB) (Limit-Amplitude)	Polarization Vertical/ Horizontal	Comments
33.400	46.7	84.6	37.9	Vertical	1,2
104.020	41.9	84.6	42.7	Vertical	1,2
113.760	42.6	84.6	42.0	Vertical	1,2
104.020	45.9	84.6	38.7	Horizontal	1,2
120.000	40.0	84.6	44.6	Horizontal	1,2
133.700	39.4	84.6	45.2	Horizontal	1,2

Comments:

1. Data contained in Appendix B - Tests # RE9 and # RE8 (05/18/98) and Tests # RE-10 and # RE9A (05/19/98).

2. Amplitude was measured using the quasi-peak detector.

Notes:

*Calculations may not agree exactly with data due to rounding of numbers.

All other radiated emissions amplitudes were at least 10 dB within the FCC 2.991 Limits. Emissions were scanned from 30 MHz to 1 GHz with antennas in both the vertical and horizontal orientation. The specified radiated emissions antenna reference distance was 3 meters. Testing of the EUT was conducted at 3 meters. No additional signal was detected.

Amplitudes were measured using the CISPR quasi-peak detector. Reference detector specified in the limit is the CISPR quasi-peak detector.

TABLE D-V WORST-CASE FIELD STRENGTH OF SPURIOUS RADIATED EMISSIONS DATA FOR SIMULATED QPSK SIGNAL (SCAN : 30 MHz-1000 MHz)

(Refer to Appendix B Page # 199 – Page # 200)

Test # RE-02, Configuration: TX 28.107 GHz (Lower Frequency) 20.0dBm (Simulated QPSK), 16 Vdc

Frequency (MHz)	Amplitude Q.P. (dBµV/m)	FCC 2.993. Limit (dBµV/m)	Margin* (dB) (Limit-Amplitude)	Polarization Vertical/ Horizontal	Comments
33.425	44.2	84.6	40.4	Vertical	1,2
59.750	42.9	84.6	41.7	Vertical	1,2
73.560	41.1	84.6	43.5	Vertical	1,2
120.000	41.5	84.6	43.1	Horizontal	1,2
120.350	40.6	84.6	44.0	Horizontal	1,2
133.720	40.4	84.6	44.2	Horizontal	1,2

(Refer to Appendix B Page # 201 – Page # 202)

Test # RE-01, Configuration: TX 28.225 GHz (Center Frequency) 20.0dBm (Simulated QPSK), 16 Vdc

Frequency (MHz)	Amplitude Q.P. (dBµV/m)	FCC 2.993. Limit (dBµV/m)	Margin* (dB) (Limit-Amplitude)	Polarization Vertical/ Horizontal	Comments
60.180	44.5	84.6	40.1	Vertical	1,2
104.020	41.9	84.6	42.7	Vertical	1,2
133.760	44.4	84.6	40.2	Vertical	1,2
104.020	44.9	84.6	39.7	Horizontal	1,2
120.000	45.9	84.6	38.7	Horizontal	1,2
120.345	44.5	84.6	40.1	Horizontal	1,2

(Refer to Appendix B Page # 203 – Page # 204)

Test # RE-03A, Configuration: TX 28.345 GHz (Higher Frequency) 19.7 dBm (Simulated QPSK), 16 Vdc

Frequency (MHz)	Amplitude Q.P. (dBµV/m)	FCC 2.993. Limit (dBµV/m)	Margin* (dB) (Limit-Amplitude)	Polarization Vertical/ Horizontal	Comments
33.440	47.7	84.6	36.9	Vertical	1,2
59.780	43.4	84.6	41.2	Vertical	1,2
173.840	37.7	84.6	46.9	Vertical	1,2
33.420	40.7	84.6	43.9	Horizontal	1,2
113.670	35.6	84.6	49.0	Horizontal	1,2
133.720	38.4	84.6	46.2	Horizontal	1,2

D. TEST RESULTS (Continued)

(Refer to Appendix B Page # 205)

Test # RE-03, Configuration: TX 28.345 GHz (Higher Frequency) 20.0dBm (Simulated QPSK), 16 Vdc

Frequency (MHz)	Amplitude Q.P. (dBµV/m)	FCC 2.993. Limit (dBµV/m)	Margin* (dB) (Limit-Amplitude)	Polarization Vertical/ Horizontal	Comments
344.070	29.76	84.6	54.84	Vertical	1,2
632.100	39.0	84.6	45.6	Vertical	1,2
960.000	37.6	84.6	47.0	Vertical	1,2
328.050	32.8	84.6	51.8	Horizontal	1,2
632.100	37.0	84.6	47.6	Horizontal	1,2
960.000	34.6	84.6	50.0	Horizontal	1,2

Comments:

1. Data contained in Appendix B - Tests # RE-01 and # RE-03 (05/01/98) and Tests # RE-02 and # RE-03A (05/04/98)

2. Amplitude was measured using the quasi-peak detector.

Notes:

*Calculations may not agree exactly with data due to rounding of numbers.

All other radiated emissions amplitudes were at least 10 dB within the FCC 2.991 Limits. Emissions were scanned from 30 MHz to 1 GHz with antennas in both the vertical and horizontal orientation. The specified radiated emissions antenna reference distance was 3 meters. Testing of the EUT was conducted at 3 meters. No additional signal was detected.

Amplitudes were measured using the CISPR quasi-peak detector. Reference detector specified in the limit is the CISPR quasi-peak detector.

TABLE D-VI. WORST-CASE FIELD STRENGTH OF SPURIOUS RADIATED EMISSIONS DATA FOR ACTUAL QPSK SIGNAL (SCAN: 1 GHz-100 GHz)

SCAN 1 GHz-18 GHz (Refer to Appendix B Page # 207 – Page # 208)

Test # MW-10D, Configuration: TX 28.107 GHz (LOWER FREQUENCY) 20.0 dBm (ACTUAL QPSK), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
1.557	-116.3	-33.0	83.3	1.3	Vertical	1,2,3
1.920	-111.1	-33.0	78.1	6.5	Vertical	1,2,3
3.114	-104.9	-33.0	71.9	13.0	Vertical	1,2,3
9.600	-98.0	-33.0	65.0	20.0	Vertical	1,2,3
13.000	-100.3	-33.0	67.3	17.0	Vertical	1,2,3
15.000	-97.5	-33.0	64.5	20.0	Vertical	1,2,3
18.000	-93.9	-33.0	60.9	24.0	Vertical	1,2,3
1.557	-116.3	-33.0	83.3	1.3	Horizontal	1,2,3
1.920	-111.1	-33.0	78.1	6.5	Horizontal	1,2,3
3.114	-104.9	-33.0	71.9	13.0	Horizontal	1,2,3
9.600	-98.0	-33.0	65.0	20.0	Horizontal	1,2,3
13.000	-100.3	-33.0	67.3	17.0	Horizontal	1,2,3
15.000	-97.5	-33.0	64.5	20.0	Horizontal	1,2,3
18.000	-93.9	-33.0	60.9	24.0	Horizontal	1,2,3

Scan 18 GHz-26 GHz (Refer to Appendix B Page # 209)

Test # MW-8c, Configuration: TX 28.107 GHz (LOWER FREQUENCY) 20.0 dBm (ACTUAL QPSK Signal Driven by NIU)

Frequency (GHz)	dBc (dB)	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
18.000	-76.3	-33.0	43.3	41.0	Vertical	1,2
20.000	-72.8	-33.0	39.8	45.0	Vertical	1,2
24.000	-70.3	-33.0	37.3	47.0	Vertical	1,2
18.000	-76.3	-33.0	43.3	41.0	Horizontal	1,2
20.000	-72.8	-33.0	39.8	45.0	Horizontal	1,2
24.000	-70.3	-33.0	37.3	47.0	Horizontal	1,2

D. TEST RESULTS (Continued)

Scan 26 GH-40 GHz (Refer to Appendix B Page # 210)

Test # MW-8, Configuration: TX 28.107 GHz (LOWER FREQUENCY) 20.0 dBm (ACTUAL QPSK Signal Driven by NIU), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
26.550	-66.6	-33.0	33.6	51.0	Vertical	1
28.107	-57.7	-33.0	24.7	60.0	Vertical	1,4
26.550	-58.6	-33.0	25.6	59.0	Horizontal	1
28.107	-53.7	-33.0	20.7	64.0	Horizontal	1,4

Scan 26 GHz-40 GHz (Refer to Appendix B Page # 211)

Test # MW-8H, Configuration: TX 28.107 GHz (LOWER FREQUENCY) 20.0 dBm (ACTUAL QPSK Signal Driven by NIU), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
26.550	-61.6	-33.0	28.6	46.0	Vertical	1
27.510	-58.7	-33.0	25.7	49.0	Vertical	1,3
28.107	-54.7	-33.0	21.7	53.0	Vertical	1,4
26.550	-55.6	-33.0	22.6	52.0	Horizontal	1,3
27.510	-58.7	-33.0	25.7	49.0	Horizontal	1,3
28.107	-50.7	-33.0	17.7	57.0	Horizontal	1,4

Scan 40 GHz-60 GHz (Refer to Appendix B Page # 212)

Test # MW-8a, Configuration: TX 28.107 GHz (LOWER FREQUENCY) 20.0 dBm (ACTUAL QPSK Signal Driven by NIU), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
53.100	-69.9	-33.0	36.9	47.8	Vertical	1,3
55.020	-69.7	-33.0	36.7	47.9	Vertical	1,3
56.214	-69.5	-33.0	36.5	48.1	Vertical	1,3
53.100	-69.9	-33.0	36.9	47.8	Horizontal	1,3
55.020	-69.7	-33.0	36.7	47.9	Horizontal	1,3
56.214	-69.5	-33.0	36.5	48.0	Horizontal	1,3

D. TEST RESULTS (Continued)

Scan 60 GHz-100 GHz (Refer to Appendix B Page # 213 – Page # 214)

Test # MW-8b, Configuration: TX 28.107 GHz (LOWER FREQUENCY) 20.0 dBm (ACTUAL QPSK Signal Driven by NIU), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
79.650	-61.4	-33.0	28.4	56.0	Vertical	1,3
82.530	-61.0	-33.0	28.0	57.0	Vertical	1,3
84.321	-60.9	-33.0	27.9	57.0	Vertical	1,3
79.650	-61.4	-33.0	28.4	56.0	Horizontal	1,3
82.530	-61.0	-33.0	28.0	57.0	Horizontal	1,3
84.321	-60.9	-33.0	27.9	57.0	Horizontal	1,3
300 kHz Resolution BW, 30kHz Video						
79.650	-62.2	-33.0	29.2	55.0	Vertical	1,3
82.530	-61.8	-33.0	28.8	56.0	Vertical	1,3
84.321	-61.7	-33.0	28.7	56.0	Vertical	1,3
79.650	-62.2	-33.0	29.2	55.0	Horizontal	1,3
82.530	-61.8	-33.0	28.8	56.0	Horizontal	1,3
84.321	-61.7	-33.0	28.7	56.0	Horizontal	1,3

Scan 1 GHz-18 GHz (Refer to Appendix B Page # 215 – Page # 216)

Test # MW-9D, Configuration: TX 28.225 GHz (CENTER FREQUENCY) 20.0 dBm (ACTUAL QPSK), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
1.675	-116.3	-33.0	83.3	1.3	Vertical	1,2,3
1.920	-111.1	-33.0	78.1	6.5	Vertical	1,2,3
3.350	-104.9	-33.0	71.9	13.0	Vertical	1,2,3
9.600	-98.0	-33.0	65.0	20.0	Vertical	1,2,3
13.000	-100.3	-33.0	67.3	17.0	Vertical	1,2,3
15.000	-97.5	-33.0	64.5	20.0	Vertical	1,2,3
18.000	-93.9	-33.0	60.9	24.0	Vertical	1,2,3
1.675	-116.3	-33.0	83.3	1.30	Horizontal	1,2,3
1.920	-111.1	-33.0	78.1	6.5	Horizontal	1,2,3
3.350	-104.9	-33.0	71.9	13.0	Horizontal	1,2,3
9.600	-98.0	-33.0	65.0	20.0	Horizontal	1,2,3
13.000	-100.3	-33.0	67.3	17.0	Horizontal	1,2,3
15.000	-97.5	-33.0	64.5	20.0	Horizontal	1,2,3
18.000	-93.9	-33.0	60.9	24.0	Horizontal	1,2,3

D. TEST RESULTS (Continued)

Scan 18 GHz-26 GHz (Refer to Appendix B Page # 218)

Test # MW-9c, Configuration: TX 28.225 GHz (CENTER FREQUENCY) 20.0 dBm (ACTUAL QPSK Signal Driven by NIU), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
18.0	-76.3	-33.0	43.3	41.0	Vertical	1,3
20.0	-72.8	-33.0	39.8	45.0	Vertical	1,3
24.0	-70.3	-33.0	37.3	47.0	Vertical	1,3
18.0	-76.3	-33.0	43.3	41.0	Horizontal	1,3
20.0	-72.8	-33.0	39.8	45.0	Horizontal	1,3
24.0	-70.3	-33.0	37.3	47.0	Horizontal	1,3

Scan 26 GHz-40 GHz (Refer to Appendix B Page # 219)

Test # MW-9, Configuration: TX 28.225 GHz (CENTER FREQUENCY) 20.0 dBm (ACTUAL QPSK Signal Driven by NIU), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
26.550	-66.6	-33.0	33.6	51.0	Vertical	1
28.225	-55.7	-33.0	22.7	62.0	Vertical	1,4
26.550	-57.6	-33.0	24.6	60.0	Horizontal	1
28.225	-51.7	-33.0	18.7	66.0	Horizontal	1,4

Scan 26 GHz-40 GHz (Refer to Appendix B Page # 220)

Test # MW-9f, Configuration: TX 28.225 GHz (CENTER FREQUENCY) 20.0 dBm (ACTUAL QPSK signal driven by NIU), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
26.550	-61.6	-33.0	28.6	46.0	Vertical	1,3
27.510	-58.7	-33.0	25.7	49.0	Vertical	1,3
28.225	-55.7	-33.0	22.7	52.0	Vertical	1,4
26.550	-55.6	-33.0	22.6	52.0	Horizontal	1
27.510	-58.7	-33.0	25.7	49.0	Horizontal	1,3
28.225	-50.7	-33.0	17.7	57.0	Horizontal	1,4

D. TEST RESULTS (Continued)

Scan 40 GHz-60 GHz (Refer to Appendix B Page # 221)

Test # MW-9a, Configuration: TX 28.225 GHz (CENTER FREQUENCY) 20.0 dBm (ACTUAL QPSK Signal Driven by NIU), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
53.10	-69.9	-33.0	36.9	48.0	Vertical	1,3
55.02	-69.7	-33.0	36.7	48.0	Vertical	1,3
56.45	-69.5	-33.0	36.5	48.0	Vertical	1,3
53.10	-69.9	-33.0	36.9	48.0	Horizontal	1,3
55.02	-69.7	-33.0	36.7	48.0	Horizontal	1,3
56.45	-69.5	-33.0	36.5	48.0	Horizontal	1,3

Scan 60 GHz-100 GHz (Refer to Appendix B Page # 222 – Page # 223)

Test # MW-9b, Configuration : TX 28.225 GHz (CENTER FREQUENCY) 20.0 dBm (ACTUAL QPSK Signal Driven by NIU), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
79.650	-61.4	-33.0	28.4	56.0	Vertical	1,3
82.530	-61.0	-33.0	28.0	57.0	Vertical	1,3
84.675	-60.9	-33.0	27.9	57.0	Vertical	1,3
79.650	-61.4	-33.0	28.4	56.0	Horizontal	1,3
82.530	-61.0	-33.0	28.0	57.0	Horizontal	1,3
84.675	-60.9	-33.0	27.9	57.0	Horizontal	1,3
300 kHz Resolution Bu, 30 kHz Video						
79.650	-62.2	-33.0	29.2	55.0	Vertical	1,3
82.530	-61.8	-33.0	28.8	56.0	Vertical	1,3
84.675	-61.7	-33.0	28.7	56.0	Vertical	1,3
79.650	-62.2	-33.0	29.2	55.0	Horizontal	1,3
82.530	-61.8	-33.0	28.8	56.0	Horizontal	1,3
84.675	-61.7	-33.0	28.7	56.0	Horizontal	1,3

D. TEST RESULTS (Continued)

Scan 1 GHz-18 GHz (Refer to Appendix B Page # 224 – Page # 225

Test # MW-8D, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 20.0 dBm (ACTUAL QPSK), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
1.795	-72.3	-33.0	39.3	45.3	Vertical	1,2
1.920	-65.3	-33.0	32.3	52.4	Vertical	1,2,3
3.590	-63.4	-33.0	30.4	54.2	Vertical	1,2,3
9.600	-98.0	-33.0	65.0	19.7	Vertical	1,2,3
13.000	-100.3	-33.0	67.3	17.3	Vertical	1,2,3
15.000	-97.5	-33.0	64.5	20.1	Vertical	1,2,3
18.000	-93.9	-33.0	60.9	23.7	Vertical	1,2,3
1.795	-71.3	-33.0	38.3	46.3	Horizontal	1,2,3
1.920	-65.3	-33.0	32.3	52.4	Horizontal	1,2,3
3.590	-63.4	-33.0	30.4	54.2	Horizontal	1,2,3
9.600	-98.0	-33.0	65.0	19.7	Horizontal	1,2,3
13.000	-100.3	-33.0	67.3	17.3	Horizontal	1,2,3
15.000	-97.5	-33.0	64.5	20.1	Horizontal	1,2,3
18.000	-93.9	-33.0	60.9	23.7	Horizontal	1,2,3

Scan 18 GHz-26 GHz (Refer to Appendix B Page # 226)

Test # MW-10c, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 20.0 dBm (ACTUAL QPSK Signal Driven by NIU), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
18.0	-76.3	-33.0	43.3	41.3	Vertical	1,3
20.0	-72.8	-33.0	39.8	44.8	Vertical	1,3
24.0	-70.3	-33.0	37.3	47.3	Vertical	1,3
18.0	-76.3	-33.0	43.3	41.3	Horizontal	1,3
20.0	-72.8	-33.0	39.8	44.8	Horizontal	1,3
24.0	-70.3	-33.0	37.3	47.3	Horizontal	1,3

D. TEST RESULTS (Continued)

Scan 26 GHz-40 GHz (Refer to Appendix B Page # 227)

Test # MW-8G, Configuration: TX 28.345 GHZ (CENTER FREQUENCY) 20.0 dBm (ACTUAL QPSK signal driven by NIU), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
26.550	-61.6	-33.0	28.6	46.0	Vertical	1,3
27.510	-58.7	-33.0	25.7	49.0	Vertical	1,3
28.345	-54.7	-33.0	21.7	53.0	Vertical	1,4
26.550	-55.6	-33.0	22.6	52.0	Horizontal	1
27.510	-58.7	-33.0	25.7	49.0	Horizontal	1,3
28.345	-50.7	-33.0	17.7	57.0	Horizontal	1,4

Scan 26 GHz-40 GHz (Refer to Appendix B Page # 228)

Test # MW-10, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 20.0 dBm (ACTUAL QPSK Signal Driven by NIU), 16Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
26.550	-64.6	-33.0	31.6	53.0	Vertical	1
28.345	-55.7	-33.0	22.7	62.0	Vertical	1,4
26.550	-58.6	-33.0	25.6	59.0	Horizontal	1
28.345	-51.7	-33.0	18.7	66.0	Horizontal	1,4

Scanned 40 GHz-60 GHz (Refer to Appendix B Page # 229)

Test # MW-10a, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 20.0 dBm (ACTUAL QPSK signal driven by NIU), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
53.100	-69.9	-33.0	36.9	48.0	Vertical	1,3
55.020	-69.7	-33.0	36.7	48.0	Vertical	1,3
56.690	-69.5	-33.0	36.5	48.0	Vertical	1,3
53.100	-69.9	-33.0	36.9	48.0	Horizontal	1,3
55.020	-69.7	-33.0	36.7	48.0	Horizontal	1,3
56.690	-69.5	-33.0	36.5	48.0	Horizontal	1,3

D. TEST RESULTS (Continued)

Scan 60 GHz-100 GHz (Refer to Appendix B Page # 230 – Page # 231)

Test # MW-10b, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 20.0 dBm (ACTUAL QPSK Signal Driven by NIU), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
79.65	-61.4	-33.0	28.4	56.0	Vertical	1,3
82.53	-61.0	-33.0	28.0	57.0	Vertical	1,3
85.035	-60.9	-33.0	27.9	57.0	Vertical	1,3
79.65	-61.4	-33.0	28.4	56.0	Horizontal	1,3
82.53	-61.0	-33.0	28.0	57.0	Horizontal	1,3
85.035	-60.9	-33.0	27.9	57.0	Horizontal	1,3
300 kHz Resolution BW, 30 kHz Video						
79.65	-62.2	-33.0	29.2	55.0	Vertical	1,3
82.53	-61.8	-33.0	28.8	56.0	Vertical	1,3
85.035	-61.7	-33.0	28.7	56.0	Vertical	1,3
79.65	-62.2	-33.0	29.2	55.0	Horizontal	1,3
82.53	-61.8	-33.0	28.8	56.0	Horizontal	1,3
85.035	-61.7	-33.0	28.7	56.0	Horizontal	1,3

Comments:

1) Data contained in Appendix B - Tests # MW-8, # MW-8a, # MW-9, # MW-9a, # MW-10, and # MW-10a (05/15/98), Tests # MW-8b, # MW-8c, #MW-9c, # MW-9b, # MW-10c, and # MW- 10b (05/18/98), Tests # MW-8D, #MW-10D, and # MW-9D, and (5/19/98), and Tests # MW-8H, # MW-9f, and MW-8G (06/10/98).

2) Amplitude was measured using the average detector.

3) Noise Floor Reading.

4) Fundamental reading.

Notes:

4 kHz RBW correction factor of -24 dB was added to the formula (refer to sample calculations).

*Calculations may not agree exactly with data due to rounding of numbers.

Photographs are unavailable for Tests # MW 10D, # MW-8c, # MW-9D, # MW-9c, # MW-9f, # MW-8D, # MW-10c, and # MW-8G

All other radiated emissions amplitudes were at least 10 dB within the FCC Part 2 Subpart 2.993 Limits. Emissions were scanned from 1 GHz to 18 GHz, 18GHz-26 GHz, 26 GHz to 40 GHz, 40 GHz to 60 GHz and 60 GHz to 100 GHz with antennas in both the vertical and horizontal orientation. The specified radiated emissions antenna reference distance was 3 meters. Testing of the EUT was conducted at 3meters. No additional signal was detected.

Amplitudes were measured using the peak detector. Reference detector specified in the limit is the average detector.

TABLE D-VII. WORST-CASE FIELD STRENGTH OF SPURIOUS RADIATED EMISSIONS DATA FOR SIMULATED QPSK SIGNAL (SCAN 1 GHz –100 GHz)

Scan 1 GHz-18 GHz (Refer to Appendix B Page # 233 – Page # 234)

Test # MW-02, Configuration: TX 28.107 GHz (LOWER FREQUENCY) 20.0dBm (Simulated QPSK Signal) 20.0 dBm, 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
1.557	-99.2	-33.0	66.2	18.0	Vertical	1,2
1.920	-106.2	-33.0	73.2	11.0	Vertical	1,2,3
3.114	-100.6	-33.0	67.6	17.0	Vertical	1,2,3
9.600	-96.4	-33.0	63.4	21.0	Vertical	1,2,3
1.557	-97.2	-33.0	64.2	20.0	Horizontal	1,2
1.920	-106.2	-33.0	73.2	11.0	Horizontal	1,2,3
3.114	-100.6	-33.0	67.6	17.0	Horizontal	1,2,3
9.600	-96.4	-33.0	63.4	21.0	Horizontal	1,2,3

SCAN 18 GHz-40 GHz (Refer to Appendix B Page # 235)

Test # MW-2A, Configuration: TX 28.107 GHz (LOWER FREQUENCY) 20.0dBm (Simulated QPSK Signal) 20.0 dBm, 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comment s
24.000	-65.3	-33.0	32.3	52.3	Vertical	1,3
26.555	-63.5	-33.0	30.5	54.1	Vertical	1
28.107	-63.9	-33.0	30.9	53.8	Vertical	1
20.000	-69.8	-33.0	36.8	47.8	Horizontal	1,3
24.000	-65.3	-33.0	32.3	52.3	Horizontal	1,3
26.555	-54.5	-33.0	21.5	63.1	Horizontal	1

D. TEST RESULTS (Continued)

SCAN 26 GHz-40 GHz (Refer to Appendix B Page # 236)

Test # MW-2D, Configuration: TX 28.107 GHz (LOWER FREQUENCY) 20.0dBm (Simulated QPSK), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
26.550	-61.6	-33.0	28.6	46.0	Vertical	1,3
27.510	-58.7	-33.0	25.7	48.9	Vertical	1,3
28.107	-54.7	-33.0	21.7	53.0	Vertical	1,4
26.550	-54.6	-33.0	21.6	53.0	Horizontal	1
27.510	-58.7	-33.0	25.7	48.9	Horizontal	1,3
26.107	-51.7	-33.0	18.7	56.0	Horizontal	1,4

SCAN 40 GHz-60 GHz (Refer to Appendix B Page # 237)

Test # MW-2B, Configuration: TX 28.107 GHz (LOWER FREQUENCY) 20.0dBm, (Simulated QPSK signal), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
53.100	-45.4	-33.0	12.4	72.0	Vertical	1,3
56.214	-45.0	-33.0	12.0	73.0	Vertical	1,3
55.020	-45.2	-33.0	12.2	72.0	Vertical	1,3
53.100	-45.4	-33.0	12.4	72.0	Horizontal	1,3
56.214	-45.0	-33.0	12.0	73.0	Horizontal	1,3
55.070	-45.2	-33.0	12.2	72.0	Horizontal	1,3
300 kHz Resolution Bu, 30 kHz Video BW						
53.100	-65.2	-33.0	32.2	52.0	Vertical	1,3
56.214	-64.8	-33.0	31.8	53.0	Vertical	1,3
55.020	-65.0	-33.0	32.0	53.0	Vertical	1,3
53.100	-65.2	-33.0	32.2	52.0	Horizontal	1,3
56.214	-64.8	-33.0	31.8	53.0	Horizontal	1,3
55.070	-65.0	-33.0	32.0	53.0	Horizontal	1,3

SCAN 60 GHz-100 GHz (Refer to Appendix B Page # 238 – Page # 239)

Test # MW-2C, Configuration: TX 28.107 GHz (LOWER FREQUENCY) 20.0dBm, (Simulated QPSK signal), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 (dBc) Limit	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
79.650	-61.4	-33.0	28.4	72.0	Vertical	1,3
82.530	-61.0	-33.0	28.0	73.0	Vertical	1,3
84.321	-60.9	-33.0	27.9	72.0	Vertical	1,3
79.650	-61.4	-33.0	28.4	72.0	Horizontal	1,3
82.530	-61.0	-33.0	28.0	73.0	Horizontal	1,3
84.321	-60.9	-33.0	27.9	72.0	Horizontal	1,3
300 kHz Resolution Bu, 30 kHz Video BW						
79.650	-61.2	-33.0	28.2	52.0	Vertical	1,3
82.530	-60.8	-33.0	27.8	53.0	Vertical	1,3
84.321	-60.7	-33.0	27.7	53.0	Vertical	1,3
79.650	-61.2	-33.0	28.2	52.0	Horizontal	1,3
82.530	-60.8	-33.0	27.8	53.0	Horizontal	1,3
84.321	-60.7	-33.0	27.7	53.0	Horizontal	1,3

D. TEST RESULTS (Continued)

Scan 1 GHz-13 GHz (Refer to Appendix B Page # 240 –Page # 241)

Test # MW-01, TX 28.225GHz (CENTER FREQUENCY) 20.0dBm (Simulated QPSK Signal), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 Limit (dB)	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
1.675	-107.2	-33.0	74.2	10.0	Vertical	1,2,3
1.920	-106.2	-33.0	73.2	11.0	Vertical	1,2,3
3.350	-100.6	-33.0	67.6	17.0	Vertical	1,2,3
9.600	-96.4	-33.0	63.4	21.0	Vertical	1,2,3
1.675	-107.2	-33.0	74.2	10.0	Horizontal	1,2,3
1.920	-106.2	-33.0	73.2	11.0	Horizontal	1,2,3
3.350	-100.6	-33.0	67.6	17.0	Horizontal	1,2,3
9.600	-96.4	-33.0	63.4	21.0	Horizontal	1,2,3

SCAN 13 GHz-18 GHz (Refer to Appendix B Page # 242)

Test # MW-01A, TX 28.225 GHz (CENTER FREQUENCY) 20.0 dBm (Simulated QPSK Signal), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 Limit (dB)	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
13.000	-96.6	-33.0	63.6	21.0	Vertical	1,2,3
15.000	-94.4	-33.0	61.4	23.0	Vertical	1,2,3
18.000	-85.5	-33.0	52.5	32.0	Vertical	1,2,3
13.000	-96.6	-33.0	63.6	21.0	Horizontal	1,2,3
15.000	-94.4	-33.0	61.4	23.0	Horizontal	1,2,3
18.000	-85.5	-33.0	52.5	32.0	Horizontal	1,2,3

Scan 18 GHz-40 GHz (Refer to Appendix B Page # 243)

Test # MW-1A, Test Configuration: TX 28.225 GHz (CENTER FREQUENCY) 20.0dBm (Simulated QPSK signal), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 Limit (dB)	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
24.000	-67.3	-33.0	34.3	50.0	Vertical	1,3
26.550	-63.0	-33.0	30.0	55.0	Vertical	1
28.225	-63.7	-33.0	30.7	54.0	Vertical	1,3
24.000	-67.3	-33.0	34.3	50.0	Horizontal	1,3
26.550	-54.0	-33.0	21.0	55.0	Horizontal	1
28.225	-63.7	-33.0	30.7	54.0	Horizontal	1,3

D. TEST RESULTS (Continued)

SCAN 26 GHz-40 GHz (Refer to Appendix B Page # 244)

Test # MW-1D, Configuration: TX 28.225 GHz (CENTER FREQUENCY) 20.0dBm (Simulated QPSK), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 Limit (dB)	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
26.550	-61.6	-33.0	28.6	46.0	Vertical	1,3
27.510	-58.7	-33.0	25.7	49.0	Vertical	1,3
28.225	-54.7	-33.0	21.7	53.0	Vertical	1;4
26.550	-54.6	-33.0	21.6	53.0	Horizontal	1
27.510	-58.7	-33.0	25.7	49.0	Horizontal	1,3
28.225	-51.7	-33.0	18.7	56.0	Horizontal	1,4

Scan 40 GHz-60 GHz (Refer to Appendix B Page # 245)

Test # MW-1B, Configuration: TX 28.225 GHz (CENTER FREQUENCY) 20.0dBm (Simulated QPSK), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 Limit (dB)	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
53.100	-45.4	-33.0	12.4	72.0	Vertical	1,3
56.450	-45.0	-33.0	12.0	73.0	Vertical	1,3
55.020	-45.2	-33.0	12.2	72.0	Vertical	1,3
53.100	-45.4	-33.0	12.4	72.0	Horizontal	1,3
56.450	-45.0	-33.0	12.0	73.0	Horizontal	1,3
55.070	-45.2	-33.0	12.2	72.0	Horizontal	1,3
300 kHz Resolution BW, 300 kHz Video BW						
53.100	-65.1	-33.0	32.1	53.0	Vertical	1,3
56.450	-64.7	-33.0	31.7	53.0	Vertical	1,3
55.020	-64.9	-33.0	31.9	53.0	Vertical	1,3
53.100	-65.1	-33.0	32.1	53.0	Horizontal	1,3
56.450	-64.7	-33.0	31.7	53.0	Horizontal	1,3
55.070	-64.9	-33.0	31.9	53.0	Horizontal	1,3

D. TEST RESULTS (Continued)

SCAN 60 GHz-100 GHz (Refer to Appendix B Page # 246 – Page # 247)

Test # MW-1C, Configuration: TX 28.225 GHz (CENTER FREQUENCY) 20.0dBm (Simulated QPSK), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 Limit (dB)	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
79.650	-61.4	-33.0	28.4	56.0	Vertical	1,3
82.530	-61.0	-33.0	28.0	57.0	Vertical	1,3
84.675	-60.9	-33.0	27.9	57.0	Vertical	1,3
79.650	-61.4	-33.0	28.4	56.0	Horizontal	1,3
82.530	-61.0	-33.0	28.0	57.0	Horizontal	1,3
84.675	-60.9	-33.0	27.9	57.0	Horizontal	1,3
300 kHz Resolution BW, 30 kHz Video BW						
79.650	-61.2	-33.0	28.2	56.0	Vertical	1,3
82.530	-60.8	-33.0	27.8	57.0	Vertical	1,3
84.675	-60.7	-33.0	27.7	57.0	Vertical	1,3
79.650	-61.2	-33.0	28.2	56.0	Horizontal	1,3
82.530	-60.8	-33.0	27.8	57.0	Horizontal	1,3
84.675	-60.7	-33.0	27.7	57.0	Horizontal	1,3

Scan 1GHz-13GHz (Refer to Appendix B Page # 248 Page # 249)

Test # MW-03, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 20.0dBm (Simulated QPSK), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 Limit (dB)	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
1.795	-110.4	-33.0	77.4	7.3	Vertical	1,2,3
1.920	-108.2	-33.0	75.2	9.4	Vertical	1,2,3
3.590	-100.0	-33.0	67.0	18.0	Vertical	1,2,3
9.600	-96.4	-33.0	63.4	21.0	Vertical	1,2,3
1.795	-110.4	-33.0	77.4	7.30	Horizontal	1,2,3
1.920	-108.2	-33.0	75.2	9.4	Horizontal	1,2,3
3.590	-100.0	-33.0	67.0	18.0	Horizontal	1,2,3
9.600	-96.4	-33.0	63.4	21.0	Horizontal	1,2,3

D. TEST RESULTS (Continued)

Scan 13 GHz –18 GHz (Refer to Appendix B Page # 250)

Test # MW-03A, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 20.0dBm (Simulated QPSK Signal), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 Limit (dB)	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
13.000	-98.6	-33.0	65.6	19.0	Vertical	1,2,3
15.000	-94.4	-33.0	61.4	23.0	Vertical	1,2,3
18.000	-87.5	-33.0	54.5	30.0	Vertical	1,2,3
13.000	-98.6	-33.0	65.6	19.0	Horizontal	1,2,3
15.000	-94.4	-33.0	61.4	23.0	Horizontal	1,2,3
18.000	-87.5	-33.0	54.5	30.0	Horizontal	1,2,3

Scan 18 GHz - 40 GHz (Refer to Appendix B Page # 251)

Test # MW-3A, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 20.0dBm (Simulated QPSK Signal), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 Limit (dB)	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
20.000	-69.8	-33.0	36.8	48.0	Vertical	1,3
24.000	-67.3	-33.0	34.3	50.0	Vertical	1,3
26.550	-63.5	-33.0	30.5	54.0	Vertical	1
28.225	-63.0	-33.0	30.0	54.0	Vertical	1,3
20.000	-69.8	-33.0	36.8	48.0	Horizontal	1,3
24.000	-67.3	-33.0	34.3	50.0	Horizontal	1,3
26.550	-54.5	-33.0	21.5	54.0	Horizontal	1
28.225	-63.7	-33.0	30.7	54.0	Horizontal	1,3

Scan 26 GHz-40 GHz (Refer to Appendix B Page # 252)

Test # MW-3F, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 20.0dBm (Simulated QPSK), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 Limit (dB)	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
26.550	-61.6	-33.0	28.6	46.0	Vertical	1,3
27.510	-58.7	-33.0	25.7	49.0	Vertical	1,3
28.345	-53.7	-33.0	20.7	54.0	Vertical	1,4
26.550	-54.6	-33.0	21.6	53.0	Horizontal	1
27.510	-58.7	-33.0	25.7	49.0	Horizontal	1,3
26.345	-51.7	-33.0	18.7	56.0	Horizontal	1,4

D. TEST RESULTS (Continued)

Scan 18 GHz-40 GHz (Refer to Appendix B Page # 253)

Test # MW-3B, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 19.4dBm (Simulated QPSK), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 Limit (dB)	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
20.000	-69.8	-33.0	36.8	48.0	Vertical	1,3
24.000	-67.3	-33.0	34.3	50.0	Vertical	1,3
26.550	-63.0	-33.0	30.0	55.0	Vertical	1
20.000	-69.8	-33.0	36.8	48.0	Horizontal	1,3
24.000	-67.3	-33.0	34.3	50.0	Horizontal	1,3
26.550	-54.0	-33.0	21.0	55.0	Horizontal	1

SCAN 40 GHz-60 GHz (Refer to Appendix B Page # 254)

Test # MW-3d, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 20.0dBm (Simulated QPSK), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 Limit (dB)	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
53.100	-45.4	-33.0	12.4	72.0	Vertical	1,3
56.690	-45.0	-33.0	12.0	73.0	Vertical	1,3
55.020	-45.2	-33.0	12.2	72.0	Vertical	1,3
53.100	-45.4	-33.0	12.4	72.0	Horizontal	1,3
56.690	-45.0	-33.0	12.0	73.0	Horizontal	1,3
55.070	-45.2	-33.0	12.2	72.0	Horizontal	1,3
300 kHz Resolution BW, 30 kHz Video BW						
53.100	-65.2	-33.0	32.2	52.0	Vertical	1
56.690	-64.8	-33.0	31.8	53.0	Vertical	1
55.020	-65.0	-33.0	32.0	53.0	Vertical	1
53.100	-65.2	-33.0	32.2	52.0	Horizontal	1
56.690	-64.8	-33.0	31.8	53.0	Horizontal	1
55.070	-65.0	-33.0	32.0	53.0	Horizontal	1

D. TEST RESULTS (Continued)

Scan 60 GHz-100 GHz (Refer to Appendix B Page # 255 – Page # 256)

Test # MW-3E, Configuration: TX 28.345 GHz (HIGHER FREQUENCY) 20.0dBm (Simulated QPSK), 16 Vdc

Frequency (GHz)	dBc	FCC 2.993 Limit (dB)	Margin* (dB) (Limit-Amplitude)	Corrected Reading (dBµV/m)	Polarization Vertical/ Horizontal	Comments
79.650	-61.4	-33.0	28.4	56.3	Vertical	1,3
82.530	-61.0	-33.0	28.0	56.6	Vertical	1,3
85.035	-60.9	-33.0	27.9	56.7	Vertical	1,3
79.650	-61.4	-33.0	28.4	56.3	Horizontal	1,3
82.530	-61.0	-33.0	28.0	56.6	Horizontal	1,3
85.035	-60.9	-33.0	27.9	56.7	Horizontal	1,3
300 kHz Resolution Bw, 30 kHz Video						
79.650	-61.2	-33.0	28.2	56.5	Vertical	1,3
82.530	-60.8	-33.0	27.8	56.8	Vertical	1,3
85.035	-60.7	-33.0	27.7	56.9	Vertical	1,3
79.650	-61.2	-33.0	28.2	56.5	Horizontal	1,3
82.530	-60.8	-33.0	27.8	56.8	Horizontal	1,3
85.035	-60.7	-33.0	27.9	56.9	Horizontal	1,3

D. TEST RESULTS (Continued)

Comments:

1) Data contained in Appendix B - Tests # MW-01 and # MW-02 (4/30/98), Tests # MW-01A, # MW-03, and # MW-03A (5/01/98), Tests # MW-2A (05/04/98), Tests # MW-01A, # MW-1B, # MW-3A and # MW 3d (05/05/98), Tests # MW-2B, and # MW-3B (05/06/98) , Tests # MW-1C, # MW-2C, and # MW-3E (05/07/98), and Tests # MW-2D, # MW-1D, and # MW-3F (06/10/98).

2) Amplitude was measured using the average detector.

3) Noise floor reading.

4) Fundamental reading.

Notes:

4 kHz RBW correction factor of -24 dB was added to the formula (refer to sample calculations).

*Calculations may not agree exactly with data due to rounding of numbers.

Photographs are unavailable for Tests # MW-2D, # MW-1D, # MW-3F, and # MW-3E.

All other radiated emissions amplitudes were at least 10 dB within the FCC Part 2 Subpart 2.993 Limits. Emissions were scanned from 1 GHz to 18 GHz, 18GHz-26 GHz, 26 GHz to 40 GHz, 40 GHz to 60 GHz and 60 GHz to 100 GHz with antennas in both the vertical and horizontal orientation. The specified radiated emissions antenna reference distance was 3 meters. Testing of the EUT was conducted at 3meters. No additional signal was detected.

Amplitudes were measured using the peakdetector. Reference detector specified in the limit is the average detector.

TABLE D-VIII. FREQUENCY STABILITY DATA

(Refer to Appendix B Page # 258 – Page # 260)

Frequency Stability Configuration: TX 28.225000 GHz

Frequency (MHz)	Temperature	FCC Limit 101 (2.995)	Voltage	Time
28.225000404 (RF) freq	-30 Cº	.001% (+/- 279.2 kHz)	(-15%) 40.8 Vdc	
1.675000182 (I/F) freq		.001% (+/- 279.2 kHz)		
28.225000394 (RF) freq	-30 Cº	.001% (+/- 279.2 kHz)	Nominal 48.0 Vdc	1135
1.675000180 (I/F) freq		.001% (+/- 279.2 kHz)		
28.225000348 (RF) freq	-30 Cº	.001% (+/- 279.2 kHz)	(+15%) 55.2 Vdc	
1.675000180 (I/F) freq		.001% (+/- 279.2 kHz)		
28.22500637 (R/F) freq		.001% (+/- 279.2 kHz)	(-15%) 40.8 Vdc	
1.675000181 I/F freq	-20 Cº	.001% (+/- 279.2 kHz)		
28.225000638 (R/F) freq		.001% (+/- 279.2 kHz)		
1.675000181 I/F freq	-20 Cº	.001% (+/- 279.2 kHz)	Nominal 48.0 Vdc	1240
28.225000637 (RF) freq		.001% (+/- 279.2 kHz)		
1.675000183 I/F freq	-20 Cº	.001% (+/- 279.2 kHz)	(+15%) 55.2 Vdc	
28.225000522 (RF) freq	-10 Cº	.001% (+/- 279.2 kHz)	(-15%) 40.8 Vdc	
1.675000185 I/F freq		.001% (+/- 279.2 kHz)		
28.225000530 (RF) freq	-10 Cº	.001% (+/- 279.2 kHz)	Nominal 48.0 Vdc	1325
1.675000185 I/F freq		.001% (+/- 279.2 kHz)		
28.225000514 (RF) freq	-10 Cº	.001% (+/- 279.2 kHz)	(+15%) 55.2 Vdc	
1.675000184 I/F freq		.001% (+/- 279.2 kHz)		
28.225000440 (RF) freq	0 Cº	.001% (+/- 279.2 kHz)	(-15%) 40.8 Vdc	
1.675000184 (I/F) freq		.001% (+/- 279.2 kHz)		
28.225000454 (RF) freq	0 Cº	.001% (+/- 279.2 kHz)	Nominal 48.0 Vdc	1410
1.675000184 (I/F) freq		.001% (+/- 279.2 kHz)		
28.225000447 (RF) freq	0 Cº	.001% (+/- 279.2 kHz)	(+15%) 55.2 Vdc	
1.675000183 (I/F) freq		.001% (+/- 279.2 kHz)		

D. TEST RESULTS (Continued)

(Refer to Appendix B Page # 258 – Page # 260)

Frequency Stability Configuration: TX 28.225000 GHz

Frequency (MHz)	Temperature	FCC Limit 101 (2.995)	Voltage	Time
28.22500394(R/F) freq4		.001% (+/- 279.2 kHz)	(-15%) 40.8 Vdc	
1.675000183 I/F freq	10 Cº	.001% (+/- 279.2 kHz)		
28.225000484 (r/F) freq		.001% (+/- 279.2 kHz)		
1.675000182 I/F freq	10 Cº	.001% (+/- 279.2 kHz)	Nominal 48.0 Vdc	1455
28.225000407 (RF) freq		.001% (+/- 279.2 kHz)		
1.675000183 I/F freq	10 Cº	.001% (+/- 279.2 kHz)	(+15%) 55.2 Vdc	
28.225000359 (RF) freq	20 Cº	.001% (+/- 279.2 kHz)	(-15%) 40.8 Vdc	
1.675000184 I/F freq		.001% (+/- 279.2 kHz)		
28.225000360 (RF) freq	20 Cº	.001% (+/- 279.2 kHz)	Nominal 48.0 Vdc	1540
1.675000183 I/F freq		.001% (+/- 279.2 kHz)		
28.225000374 (RF) freq	20 Cº	.001% (+/- 279.2 kHz)	(+15%) 55.2 Vdc	
1.675000192 I/F freq		.001% (+/- 279.2 kHz)		
28.225000392(RF) freq	30 Cº	.001% (+/- 279.2 kHz)	(-15%) 40.8 Vdc	
1.675000182 I/F freq		.001% (+/- 279.2 kHz)		
28.225000396(RF) freq	30 Cº	.001% (+/- 279.2 kHz)	Nominal 48.0 Vdc	1625
1.675000182 I/F freq		.001% (+/- 279.2 kHz)		
28.225000391(RF) freq	30 Cº	.001% (+/- 279.2 kHz)	(+15%) 55.2 Vdc	
1.675000182 I/F freq		.001% (+/- 279.2 kHz)		
28.225000489 (RF) freq	40 Cº	.001% (+/- 279.2 kHz)	(-15%) 40.8 Vdc	
1.675000184 (I/F) freq		.001% (+/- 279.2 kHz)		
28.225000473 (RF) freq	40 Cº	.001% (+/- 279.2 kHz)	Nominal 48.0 Vdc	1710
1.675000184 (I/F) freq		.001% (+/- 279.2 kHz)		
28.225000477 (RF) freq	40 Cº	.001% (+/- 279.2 kHz)	(+15%) 55.2 Vdc	
1.675000183 (I/F) freq		.001% (+/- 279.2 kHz)		
28.225000718(RF) freq	50 Cº	.001% (+/- 279.2 kHz)	(-15%) 40.8 Vdc	
1.675000182 I/F freq		.001% (+/- 279.2 kHz)		
28.225000714(RF) freq	50 Cº	.001% (+/- 279.2 kHz)	Nominal 48.0 Vdc	1755
1.675000182 I/F freq		.001% (+/- 279.2 kHz)		
28.225000731(RF) freq	50 Cº	.001% (+/- 279.2 kHz)	(+15%) 55.2 Vdc	
1.675000182 I/F freq		.001% (+/- 279.2 kHz)		

Comments:

1. Data contained in Appendix B – Test # Frequency Stability (04/28/98).

Dallas/Ft. Worth Headquarters:
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Microwave Radiated Emissions Data

Complete X Preliminary ___ Page 1 of1

Client: BOSCH TELECOM Test #: 036V4 W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 V4

Technician: MARK SEVERSON Specification: CFR 47 P 2.991 Lab: BOATS Date: 6/11/98

Equipment Used: 934,935,CF21,CF20,697,935

Configuration: TX 28.107 (LOWER FREQUENCY) 20.0dBm(ACTUAL QPSK)

Readings taken at antenna terminals

Bandwidth: 1MHZ Video Bandwidth: 100KHZ Antenna Distance n/a Detector:

Climatic Conditions:
Temperature: 20 C
Relative Humidity: 37 %
Atmospheric Pressure: 996 mbar

EUT Power: ___ 115 V.A.C. n/a 60 Hz
___ 208 V.A.C. n/a 50 Hz
___ 230 V.A.C.
X Other 16VDC n/a 1 Phase n/a 3 Phase

X Peak
___ Average

Freq. (GHz)	Meter Reading (dBm)	Antenna Factor (dB)	Cable Loss (dB)	4kHz RBM Correction Factor (dB)	Atten dB	Corrected Reading (dBm)	Lim -36dBm		Comments:
26.550	-55.83	0	6.3	-24	19	-54.5	-36.0		
28.08	-48.17	0	7.83	-24	19	-45.3	n/a		
28.107	-7.17	0	7.83	-24	19	-4.3	n/a		
28.132	-51.5	0	7.83	-24	19	-48.7	-36.0		
									Scanned
									26-40Ghz

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Microwave Radiated Emissions Data

Complete X Preliminary ___ Page 1 of 1

Client: BOSCH TELECOM Test #: 036V5 W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 V5

Technician: MARK SEVERSON Specification: CFR 47 P 2.991 Lab: BOATS Date: 6/11/98

Equipment Used: 934,935,CF21,CF20,697,935

Configuration: TX 28.225 (CENTERFREQUENCY) 20.0dBm(ACTUAL QPSK)

Readings taken at antenna terminals

Bandwidth: 1MHZ Video Bandwidth: 100KHZ Antenna Distance n/a Detector:

Climatic Conditions:
Temperature: 20 C
Relative Humidity: 37 %
Atmospheric Pressure: 996 mbar

EUT Power: ___ 115 V.A.C. n/a 60 Hz X Peak
___ 208 V.A.C. n/a 50 Hz ___ Average
___ 230 V.A.C.
X Other 16VDC n/a 1 Phase n/a 3 Phase

Freq. (GHz)	Meter Reading (dBm)	Antenna Factor (dB)	Cable Loss (dB)	4kHz RBW Correction Factor (dB)	Atten dB	Corrected Reading (dBm)	Lim -36dBm		Comments:
26.550	-55.67	0	6.3	-24	19	-54.4	-36.0		
28.200	-48.5	0	7.83	-24	19	-45.7	-36.0		
28.225	-8.5	0	7.83	-24	19	42.3	n/a		
28.250	-50.5	0	7.83	-24	19	-54.4	-36.0		
									Scanned
									26-40Ghz

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Microwave Radiated Emissions Data

Complete X Preliminary ___ Page 1 of 1

Client: BOSCH TELECOM Test #: 036V6 W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 V6

Technician: MARK SEVERSON Specification: CFR 47 P 2.991 Lab: BOATS Date: 6/11/98

Equipment Used: 934,935,CF21,CF20,697,935

Configuration: TX 28.345 (HIGHER FREQUENCY) 20.0dBm(ACTUAL QPSK)

Readings taken at antenna terminals

Bandwidth: 1MHZ Video Bandwidth: 100KHZ Antenna Distance n/a Detector:

Climatic Conditions:
Temperature: 20 C
Relative Humidity: 37 %
Atmospheric Pressure: 996 mbar

EUT Power: ___ 115 V.A.C. n/a 60 Hz
___ 208 V.A.C. n/a 50 Hz
___ 230 V.A.C.
X Other 16VDC n/a 1 Phase n/a 3 Phase

X Peak
___ Average

Freq. (GHz)	Meter Reading (dBm)	Antenna Factor (dB)	Cable Loss (dB)	4kHz RBW Correction Factor (dB)	Atten dB	Corrected Reading (dBm)	Lim -36dBm		Comments:
26.550	-55.17	0	6.3	-24	19	-53.9	-36.0		
28.320	-48.5	0	7.83	-24	19	-45.7	-36.0		
28.345	-8.33	0	7.83	-24	19	-5.5	N/A		
28.370	-50.17	0	7.83	-24	19	-47.3	-36.0		
									Scanned
									26-40Ghz

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Microwave Radiated Emissions Data

Complete X Preliminary ___ Page 1 of 1

Client: BOSCH TELECOM Test #: 036V1 W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 V1

Technician: MARK SEVERSON Specification: CFR 47 P 2.991 Lab: BOATS Date: 6/11/98

Equipment Used: 934,935,CF21,CF20,697,935

Configuration: TX 28.107 (LOWER FREQUENCY) 20.0dBm(SIMULATED QPSK)

Readings taken at antenna terminals

Bandwidth: 1MHZ Video Bandwidth: 100KHZ Antenna Distance n/a m Detector:

Climatic Conditions:
Temperature: 25 C
Relative Humidity: 41 %
Atmospheric Pressure: 996 mbar

EUT Power: ___ 115 V.A.C. n/a 60 Hz X Peak
___ 208 V.A.C. n/a 50 Hz ___ Average
___ 230 V.A.C.
X Other 16VDC n/a 1 Phase n/a 3 Phase

Freq. (GHz)	Meter Reading (dBm)	Antenna Factor (dB)	Cable Loss (dB)	Atten (dB)	4kHz RBW Correction Factor (dB)	Corrected Reading (dBm)	Lim -36dBm (dB)		Comments:
26.550	-56	0	6.3	19	-24	-54.7	-36.0		
28.107	-7.33	0	7.83	19	-24	-4.5	N/A		
									Scanned
									26-40Ghz

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Microwave Radiated Emissions Data

Complete X Preliminary ___ Page 1 of 1

Client: BOSCH TELECOM Test #: 036V2 W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 V2

Technician: MARK SEVERSON Specification: CFR 47 P 2.991 Lab: BOATS Date: 6/11/98

Equipment Used: 934,935,CF21,CF20,697,935

Configuration: TX 28.225 (CENTER FREQUENCY) 20.0dBm(SIMULATED QPSK)
Readings taken at antenna terminals

Bandwidth: 1MHZ Video Bandwidth: 100KHZ Antenna Distance n/a Detector:

Climatic Conditions:
Temperature: 20 C
Relative Humidity: 37 %
Atmospheric Pressure: 996 mbar

EUT Power: __ 115 V.A.C. n/a 60 Hz
__ 208 V.A.C. n/a 50 Hz
__ 230 V.A.C.
X Other 16VDC n/a 1 Phase n/a 3 Phase

X Peak
___ Average

Freq. (GHz)	Meter Reading (dBm)	Antenna Factor (dB)	Cable Loss (dB)	4kHz RBW Correction Factor	Atten dB	Corrected Reading (dBm)	Lim -36dBm		Comments:
26.550	-56	0	6.3	-24	19	-54.7	-36.0		
28.225	-7.17	0	7.83	-24	19	-4.3	n/a		Fundamental
									Scanned
									26-40Ghz

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Microwave Radiated Emissions Data

Complete X Preliminary ___ Page 1 of1

Client: BOSCH TELECOM Test #: 036V3 W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 V3

Technician: MARK SEVERSON Specification: CFR 47 P 2.991 Lab: BOATS Date: 6/11/98

Equipment Used: 934,935,CF21,CF20,697,935

Configuration: TX 28.345 (HIGHER FREQUENCY) 20.0dBm(SIMULATED QPSK)
Readings taken at antenna terminals

Bandwidth: 1MHZ Video Bandwidth: 100KHZ Antenna Distance n/a Detector:

Climatic Conditions:
Temperature: 20 C
Relative Humidity: 37 %
Atmospheric Pressure: 996 mbar

EUT Power: ___ 115 V.A.C. n/a 60 Hz X Peak
___ 208 V.A.C. n/a 50 Hz ___ Average
___ 230 V.A.C.
X Other 16VDC n/a 1 Phase n/a 3 Phase

Freq. (GHz)	Meter Reading (dBm)	Antenna Factor (dB)	Cable Loss (dB)	4kHz RBW Correction Factor (dB)	Atten dB	Corrected Reading (dBm)	Lim -36dBm		Comments:
26.550	-54.5	0	6.3	-24	19	-53.2	-36.0		
28.345	-7.5	0	7.83	-24	19	-4.7	n/a		
									Scanned
									26-40Ghz

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Antenna Terminal Conducted Emissions Data

Complete X Preliminary ___ Page 1 of 1

Client: BOSCH TELECOM Test #: 036V3B W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 V3B

Technician: D. LIGHT Specification: CFR 47 P 2.991 Lab: 2 Date: 6/25/98

Equipment Used: 697,881

Configuration: TX 28.345 (HIGHER FREQUENCY) 20.0dBm(SIMULATED QPSK)
Readings taken at antenna terminals

Bandwidth: 1MHZ Video Bandwidth: 100KHZ Antenna Distance n/a Detector:

Climatic Conditions:
Temperature: 20 C
Relative Humidity: 37 %
Atmospheric Pressure: 999 mbar

EUT Power: ___ 115 V.A.C. n/a 60 Hz X Peak
___ 208 V.A.C. n/a 50 Hz ___ Average
___ 230 V.A.C.
X Other 16VDC n/a 1 Phase n/a 3 Phase

Freq. (GHz)	Meter Reading (dBm)	Antenna Factor (dB)	Cable Loss (dB)	4kHz RBW Correction Factor (dB)	Atten dB	Corrected Reading (dBm)	Lim -13dBm		Comments:
53.100	-77	0	1.0	-24	20	-80.0	-13.0		Noise floor
56.690	-42	0	1.0	-24	20	-45.0	-13.0		
79.65	-72	0	1.0	-24	20	-75.0	-13.0		Noise floor
85.035	-62.2	0	1.0	-24	20	-65.2	-13.0		
									SCANNED
									40-100GHZ

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036v03b

Model

CUSTOMER PREMISES EQUIPMENT ROOF UNIT TRANSCEIVER (US)

Bosch Telecom, Inc.

FIELD STRENGTH OF SPURIOUS RADIATED EMISSIONS
ACTUAL QPSK SIGNAL (SCAN: 30 MHz - 1000 MHz)

INTERNATIONAL COMPLIANCE CORPORATION

RADIATED EMISSIONS DATA
ELECTRIC FIELD

CLIENT NAME:	BOSCH TELECOM						W.O.#: 180036		DATE:	5/19/98	
EUT MODEL:	CPE ROOF UNIT						SERIAL #: MSN(69)		TIME:	0930	
EUT CONFIG.:	TX 28.107(LOWER FREQUENCY) 20.0dBm(ACTUAL QPSK signal)								TECH.:	MARK SEVERSON	
TEST SPECIFICATION:	2.993 (3M)								TEST NUMBER:	RE-10	
ROD ANT. #:		CABLE #:	2B	DETECT. TYPE:	QP				LOCATION:	BOATS	
BICON ANT. #:	230	PREAMP. #:	398	RES. BW (kHz):	120				DISTANCE (m):	3M	
LOG ANT. #:	227	LIMITER#	181	VIDEO BW (kHz):	N/A				EUT VOLTAGE:	115VAC	
HORN ANT. #:		ATTEN.#:	N/A	TEMP. (deg. C):	25				EUT FREQ. (Hz):	60	
DIPOLE ANT #:		DETECTOR#:	110	HUMIDITY (%):	42				PHOTO ID:	180036 RE-10 RAD. EM.	

Emission Frequency (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. Limit (dBuV/m)	CR/SL Delta (dB)	Pass Fail Marginal	Notes
33.400	V	0.0	60.0	11.26	1.42	25.0	47.73	84.6	-36.87	Pass	PEAK
33.400	V	0.0	59.0	11.26	1.42	25.0	46.73	84.6	-37.87	Pass	QP
60.180	V	0.0	49.0	9.5	1.95	24.9	35.52	84.6	-49.08	Pass	PEAK
60.180	V	0.0	46.0	9.5	1.95	24.9	32.52	84.6	-52.08	Pass	QP
73.500	V	0.0	54.0	8.89	2.15	24.9	40.11	84.6	-44.49	Pass	PEAK
73.500	V	0.0	52.0	8.89	2.15	24.9	38.11	84.6	-46.49	Pass	QP
104.020	V	0.0	57.0	10.22	2.54	24.8	44.94	84.6	-39.66	Pass	PEAK
104.020	V	0.0	54.0	10.22	2.54	24.8	41.94	84.6	-42.66	Pass	QP
112.000	V	0.0	50.0	10.8	2.54	24.8	38.52	84.6	-46.08	Pass	PEAK
112.000	V	0.0	48.0	10.8	2.54	24.8	36.52	84.6	-48.08	Pass	QP
113.760	V	0.0	55.0	10.85	2.54	24.8	43.57	84.6	-41.03	Pass	PEAK
113.760	V	0.0	53.0	10.85	2.54	24.8	41.57	84.6	-43.03	Pass	QP
173.800	V	0.0	44.0	13.49	2.82	24.7	35.65	84.6	-48.95	Pass	PEAK
173.800	V	0.0	43.0	13.49	2.82	24.7	34.65	84.6	-49.95	Pass	QP
33.400	H	0.0	50.0	11.26	1.42	25.0	37.73	84.6	-46.87	Pass	PEAK
33.400	H	0.0	48.0	11.26	1.42	25.0	35.73	84.6	-48.87	Pass	QP
40.000	H	0.0	47.0	10.2	1.59	25.0	33.84	84.6	-50.76	Pass	PEAK
40.000	H	0.0	45.0	10.2	1.59	25.0	31.84	84.6	-52.76	Pass	QP
104.020	H	0.0	62.0	10.22	2.54	24.8	49.94	84.6	-34.66	Pass	PEAK
104.020	H	0.0	60.5	10.22	2.54	24.8	48.44	84.6	-36.16	Pass	QP
112.000	H	0.0	51.0	10.8	2.54	24.8	39.52	84.6	-45.08	Pass	PEAK
112.000	H	0.0	50.0	10.8	2.54	24.8	38.52	84.6	-46.08	Pass	QP
113.650	H	0.0	57.0	10.85	2.54	24.8	45.57	84.6	-39.03	Pass	PEAK
113.650	H	0.0	55.0	10.85	2.54	24.8	43.57	84.6	-41.03	Pass	QP
120.000	H	0.0	55.0	11.2	2.54	24.8	43.98	84.6	-40.62	Pass	PEAK
120.000	H	0.0	54.0	11.2	2.54	24.8	42.98	84.6	-41.62	Pass	QP
120.300	H	0.0	52.0	11.2	2.54	24.8	40.98	84.6	-43.62	Pass	PEAK
120.300	H	0.0	51.0	11.2	2.54	24.8	39.98	84.6	-44.62	Pass	QP
133.700	H	0.0	52.0	12.32	2.82	24.8	42.38	84.6	-42.22	Pass	PEAK
133.700	H	0.0	50.0	12.32	2.82	24.8	40.38	84.6	-44.22	Pass	QP
173.800	H	0.0	46.0	13.49	2.82	24.7	37.65	84.6	-46.95	Pass	PEAK

Compliance Data

Page 1 of 2

INTERNATIONAL COMPLIANCE CORPORATION

RADIATED EMISSIONS DATA
ELECTRIC FIELD

CLIENT NAME:	BOSCH TELECOM		W.O.#: 180036	DATE:	5/19/98
EUT MODEL:	CPE ROOF UNIT GHz		SERIAL #: MSN(69)	TIME:	0930
EUT CONFIG.:	TX 28.107(LOWER FREQUENCY) 20.0dBm(ACTUAL QPSK signal)			TECH.:	MARK SEVERSON
TEST SPECIFICATION:	2.993 (3M)			TEST NUMBER:	RE-10
ROD ANT. #:		CABLE #: 2B	DETECT. TYPE: QP	LOCATION:	BOATS
BICON ANT. #:	230	PREAMP. #: 398	RES. BW (kHz): 120	DISTANCE (m):	3M
LOG ANT. #:	227	LIMITER# 181	VIDEO BW (kHz): N/A	EUT VOLTAGE:	115VAC
HORN ANT. #:		ATTEN.#: N/A	TEMP. (deg. C): 25	EUT FREQ. (Hz):	60
DIPOLE ANT #:		DETECTOR#: 110	HUMIDITY (%): 42	PHOTO ID:	180036 RE-10 RAD. EM.

Emission Frequency (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. Limit (dBuV/m)	CR/SL Delta (dB)	Pass Fail Marginal	Notes
173.800	H	0.0	44.4	13.49	2.82	24.7	36.05	84.6	-48.55	Pass	QP
328.000	V	0.0	35.0	17.75	4.63	24.6	32.76	84.6	-51.84	Pass	PEAK
328.000	V	0.0	32.0	17.75	4.63	24.6	29.76	84.6	-54.84	Pass	QP
632.000	V	0.0	38.0	21	7.29	24.8	41.54	84.6	-43.06	Pass	PEAK
632.000	V	0.0	37.0	21	7.29	24.8	40.54	84.6	-44.06	Pass	QP
960.000	V	0.0	33.0	23.26	9.17	24.8	40.6	84.6	-44	Pass	PEAK
960.000	V	0.0	29.0	23.26	9.17	24.8	36.6	84.6	-48	Pass	QP
328.000	H	0.0	36.0	17.75	4.63	24.6	33.76	84.6	-50.84	Pass	PEAK
328.000	H	0.0	34.0	17.75	4.63	24.6	31.76	84.6	-52.84	Pass	QP
344.100	H	0.0	36.0	15.8	4.63	24.6	31.81	84.6	-52.79	Pass	PEAK
344.100	H	0.0	34.0	15.8	4.63	24.6	29.81	84.6	-54.79	Pass	QP
632.000	H	0.0	36.0	21	7.29	24.8	39.54	84.6	-45.06	Pass	PEAK
632.000	H	0.0	34.0	21	7.29	24.8	37.54	84.6	-47.06	Pass	QP
960.000	H	0.0	31.0	23.26	9.17	24.8	38.6	84.6	-46	Pass	PEAK
960.000	H	0.0	27.0	23.26	9.17	24.8	34.6	84.6	-50	Pass	QP
											SCANNED 30MHZ-1GHZ MHz GHz

mpliance Data

Page 2 of 2

INTERNATIONAL COMPLIANCE CORPORATION

RADIATED EMISSIONS DATA
ELECTRIC FIELD

CLIENT NAME:	BOSCH TELECOM							W.O.#: 180036		DATE:	5/19/98
EUT MODEL:	CPE ROOF UNIT — GHz						SERIAL #: MSN(69)			TIME:	0815
EUT CONFIG.:	TX 28.225 (CENTER FREQUENCY) 20.0 dBm (ACTUAL QPSK)									TECH.:	MARK SEVERSON
TEST SPECIFICATION:	2.993 (3M)									TEST NUMBER:	RE9A
ROD ANT. #:		CABLE #:		2B	DETECT. TYPE:		QP			LOCATION:	BOATS
BICON ANT. #:	230	PREAMP. #:		398	RES. BW (kHz):		120			DISTANCE (m):	3M
LOG ANT. #:		LIMITER#		181	VIDEO BW (kHz):		N/A			EUT VOLTAGE:	16VDC
HORN ANT. #:		ATTEN.#:		N/A	TEMP. (deg. C):		24			EUT FREQ. (Hz):	N/A
DIPOLE ANT #:		DETECTOR#:		110	HUMIDITY (%):		42			PHOTO ID:	180036 RE9A RAD. EM.

Emission Frequency (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. Limit (dBuV/m)	CR/SL Delta (dB)	Pass Fail Marginal	Notes
33.400	V	0.0	59.0	11.26	1.42	25.0	46.73	84.6	-37.87	Pass	PEAK
33.400	V	0.0	58.0	11.26	1.42	25.0	45.73	84.6	-38.87	Pass	QP
60.180	V	0.0	53.0	9.5	1.95	24.9	39.52	84.6	-45.08	Pass	PEAK
60.180	V	0.0	47.0	9.5	1.95	24.9	33.52	84.6	-51.08	Pass	QP
73.500	V	0.0	55.0	8.89	2.15	24.9	41.11	84.6	-43.49	Pass	PEAK
73.500	V	0.0	52.0	8.89	2.15	24.9	38.11	84.6	-46.49	Pass	QP
104.020	V	0.0	55.0	10.22	2.54	24.8	42.94	84.6	-41.66	Pass	PEAK
104.020	V	0.0	54.0	10.22	2.54	24.8	41.94	84.6	-42.66	Pass	QP
112.000	V	0.0	44.0	10.8	2.54	24.8	32.52	84.6	-52.08	Pass	PEAK
112.000	V	0.0	42.0	10.8	2.54	24.8	30.52	84.6	-54.08	Pass	QP
113.600	V	0.0	49.0	10.85	2.54	24.8	37.57	84.6	-47.03	Pass	PEAK
113.600	V	0.0	47.0	10.85	2.54	24.8	35.57	84.6	-49.03	Pass	QP
173.800	V	0.0	45.0	13.49	2.82	24.7	36.65	84.6	-47.95	Pass	PEAK
173.800	V	0.0	43.0	13.49	2.82	24.7	34.65	84.6	-49.95	Pass	QP
33.400	H	0.0	48.0	11.26	1.42	25.0	35.73	84.6	-48.87	Pass	PEAK
33.400	H	0.0	46.0	11.26	1.42	25.0	33.73	84.6	-50.87	Pass	QP
40.000	H	0.0	45.0	10.2	1.59	25.0	31.84	84.6	-52.76	Pass	PEAK
40.000	H	0.0	43.0	10.2	1.59	25.0	29.84	84.6	-54.76	Pass	QP
104.020	H	0.0	57.0	10.22	2.54	24.8	44.94	84.6	-39.66	Pass	PEAK
104.020	H	0.0	55.0	10.22	2.54	24.8	42.94	84.6	-41.66	Pass	QP
112.020	H	0.0	45.0	10.8	2.54	24.8	33.52	84.6	-51.08	Pass	PEAK
112.020	H	0.0	44.0	10.8	2.54	24.8	32.52	84.6	-52.08	Pass	QP
113.650	H	0.0	51.0	10.85	2.54	24.8	39.57	84.6	-45.03	Pass	PEAK
113.650	H	0.0	49.0	10.85	2.54	24.8	37.57	84.6	-47.03	Pass	QP
120.000	H	0.0	53.0	11.2	2.54	24.8	41.98	84.6	-42.62	Pass	PEAK
120.000	H	0.0	51.0	11.2	2.54	24.8	39.98	84.6	-44.62	Pass	QP
120.300	H	0.0	50.0	11.2	2.54	24.8	38.98	84.6	-45.62	Pass	PEAK
120.300	H	0.0	48.0	11.2	2.54	24.8	36.98	84.6	-47.62	Pass	QP
133.700	H	0.0	54.0	12.32	2.82	24.8	44.38	84.6	-40.22	Pass	PEAK
133.700	H	0.0	53.0	12.32	2.82	24.8	43.38	84.6	-41.22	Pass	QP
173.800	H	0.0	52.0	13.49	2.82	24.7	43.65	84.6	-40.95	Pass	PEAK

Compliance Data

Page 1 of 2

INTERNATIONAL COMPLIANCE CORPORATION

RADIATED EMISSIONS DATA
ELECTRIC FIELD

CLIENT NAME:	BOSCH TELECOM			W.O.#: 180036		DATE:	5/19/98
EUT MODEL:	CPE ROOF UNIT GHZ			SERIAL #: MSN(69)		TIME:	0815
EUT CONFIG.:	TX 28.225 (CENTER FREQUENCY) 20.0 dBm (ACTUAL QPSK)					TECH.:	MARK SEVERSON
TEST SPECIFICATION:	2.993 (3M)					TEST NUMBER:	RE9A
ROD ANT. #:		CABLE #:	2B	DETECT. TYPE:	QP	LOCATION:	BOATS
BICON ANT. #:	230	PREAMP. #:	398	RES. BW (kHz):	120	DISTANCE (m):	3M
LOG ANT. #:		LIMITER#	181	VIDEO BW (kHz):	N/A	EUT VOLTAGE:	16VDC
HORN ANT. #:		ATTEN.#:	N/A	TEMP. (deg. C):	24	EUT FREQ. (Hz):	N/A
DIPOLE ANT #:		DETECTOR#:	110	HUMIDITY (%):	42	PHOTO ID:	180036 RE9A RAD. EM.

Emission Frequency (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. Limit (dBuV/m)	CR/SL Delta (dB)	Pass Fail Marginal	Notes
173.800	H	0.0	50.0	13.49	2.82	24.7	41.65	84.6	-42.95	Pass	QP
											SCANNED 30-300~~MHZ~~ MHz

Compliance Data

INTERNATIONAL COMPLIANCE CORPORATION

RADIATED EMISSIONS DATA
ELECTRIC FIELD

CLIENT NAME:	BOSCH TELECOM			W.O.#: 180036		DATE:	5/18/98
EUT MODEL:	CPE ROOF UNIT GHz			SERIAL #: MSN(69)		TIME:	1550
EUT CONFIG.:	TX 28.225 (CENTER FREQUENCY0 20.0dBm (ACTUAL QPSK)					TECH.:	MARK SEVERSON
TEST SPECIFICATION:	2.993 (3M)					TEST NUMBER:	RE9
ROD ANT. #:		CABLE #:	2B	DETECT. TYPE:	QP	LOCATION:	BOATS
BICON ANT. #:	230	PREAMP. #:	398	RES. BW (kHz):	120	DISTANCE (m):	3M
LOG ANT. #:	200	LIMITER#	181	VIDEO BW (kHz):	N/A	EUT VOLTAGE:	16VDC
HORN ANT. #:		ATTEN.#:	N/A	TEMP. (deg. C):	25	EUT FREQ. (Hz):	N/A
DIPOLE ANT #:		DETECTOR#:	110	HUMIDITY (%):	42	PHOTO ID:	180036 RE9 RAD. EM.

Emission Frequency (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. Limit (dBuV/m)	CR/SL Delta (dB)	Pass Fail Marginal	Notes
328.000	H	0.0	36.0	16.7	4.63	24.6	32.71	84.6	-51.89	Pass	PEAK
328.000	H	0.0	34.0	16.7	4.63	24.6	30.71	84.6	-53.89	Pass	QP
344.100	H	0.0	35.0	15.68	4.63	24.6	30.69	84.6	-53.91	Pass	PEAK
344.100	H	0.0	34.0	15.68	4.63	24.6	29.69	84.6	-54.91	Pass	QP
632.000	H	0.0	36.0	21.98	7.29	24.8	40.52	84.6	-44.08	Pass	PEAK
632.000	H	0.0	34.0	21.98	7.29	24.8	38.52	84.6	-46.08	Pass	QP
960.000	H	0.0	30.0	22.98	9.17	24.8	37.32	84.6	-47.28	Pass	PEAK
960.000	H	0.0	26.0	22.98	9.17	24.8	33.32	84.6	-51.28	Pass	QP
328.000	V	0.0	34.0	16.7	4.63	24.6	30.71	84.6	-53.89	Pass	PEAK
328.000	V	0.0	31.0	16.7	4.63	24.6	27.71	84.6	-56.89	Pass	QP
632.000	V	0.0	38.0	21.98	7.29	24.8	42.52	84.6	-42.08	Pass	PEAK
632.000	V	0.0	35.0	21.98	7.29	24.8	39.52	84.6	-45.08	Pass	QP
960.000	V	0.0	34.0	22.98	9.17	24.8	41.32	84.6	-43.28	Pass	PEAK
960.000	V	0.0	26.0	22.98	9.17	24.8	33.32	84.6	-51.28	Pass	QP
											SCANNED 300MHZ-1GHZ
											MHz GHz

Compliance Data

INTERNATIONAL COMPLIANCE CORPORATION

RADIATED EMISSIONS DATA
ELECTRIC FIELD

CLIENT NAME:	BOSCH TELECOM			W.O.#: 180036		DATE:	5/18/98
EUT MODEL:	CPE ROOF UNIT GHZ			SERIAL #: MSN(69)		TIME:	1430
EUT CONFIG.:	TX 28.345 (HIGHER FREQUENCY0 20.0dBm (ACTUAL QPSK)					TECH.:	MARK SEVERSON
TEST SPECIFICATION:	2.993 (3M)					TEST NUMBER:	RE8
ROD ANT. #:		CABLE #:	2B	DETECT. TYPE:	QP	LOCATION:	BOATS
BICON ANT. #:	230	PREAMP. #:	398	RES. BW (kHz):	120	DISTANCE (m):	3M
LOG ANT. #:	200	LIMITER#	181	VIDEO BW (kHz):	N/A	EUT VOLTAGE:	16VDC
HORN ANT. #:		ATTEN.#:	N/A	TEMP. (deg. C):	25	EUT FREQ. (Hz):	N/A
DIPOLE ANT #:		DETECTOR#:	110	HUMIDITY (%):	42	PHOTO ID:	180036 RE8 RAD. EM.

Emission Frequency (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. Limit (dBuV/m)	CR/SL Delta (dB)	Pass Fail Marginal	Notes
33.400	V	0.0	60.0	11.26	1.42	25.0	47.73	84.6	-36.87	Pass	PEAK
33.400	V	0.0	59.0	11.26	1.42	25.0	46.73	84.6	-37.87	Pass	QP
60.180	V	0.0	54.0	9.5	1.95	24.9	40.52	84.6	-44.08	Pass	PEAK
60.180	V	0.0	50.0	9.5	1.95	24.9	36.52	84.6	-48.08	Pass	QP
73.500	V	0.0	56.0	8.89	2.15	24.9	42.11	84.6	-42.49	Pass	PEAK
73.500	V	0.0	54.0	8.89	2.15	24.9	40.11	84.6	-44.49	Pass	QP
104.020	V	0.0	55.0	10.22	2.54	24.8	42.94	84.6	-41.66	Pass	PEAK
104.020	V	0.0	54.0	10.22	2.54	24.8	41.94	84.6	-42.66	Pass	QP
112.000	V	0.0	52.0	10.8	2.54	24.8	40.52	84.6	-44.08	Pass	PEAK
112.000	V	0.0	48.0	10.8	2.54	24.8	36.52	84.6	-48.08	Pass	QP
113.760	V	0.0	56.0	10.85	2.54	24.8	44.57	84.6	-40.03	Pass	PEAK
113.760	V	0.0	54.0	10.85	2.54	24.8	42.57	84.6	-42.03	Pass	QP
173.800	V	0.0	46.0	13.49	2.82	24.7	37.65	84.6	-46.95	Pass	PEAK
173.800	V	0.0	44.0	13.49	2.82	24.7	35.65	84.6	-48.95	Pass	QP
33.400	H	0.0	51.0	11.26	1.42	25.0	38.73	84.6	-45.87	Pass	PEAK
33.400	H	0.0	49.0	11.26	1.42	25.0	36.73	84.6	-47.87	Pass	QP
40.000	H	0.0	47.0	10.2	1.59	25.0	33.84	84.6	-50.76	Pass	PEAK
40.000	H	0.0	45.0	10.2	1.59	25.0	31.84	84.6	-52.76	Pass	QP
104.020	H	0.0	60.0	10.22	2.54	24.8	47.94	84.6	-36.66	Pass	PEAK
104.020	H	0.0	58.0	10.22	2.54	24.8	45.94	84.6	-38.66	Pass	QP
112.020	H	0.0	46.0	10.8	2.54	24.8	34.52	84.6	-50.08	Pass	PEAK
112.020	H	0.0	45.0	10.8	2.54	24.8	33.52	84.6	-51.08	Pass	QP
113.650	H	0.0	53.0	10.85	2.54	24.8	41.57	84.6	-43.03	Pass	PEAK
113.650	H	0.0	50.5	10.85	2.54	24.8	39.07	84.6	-45.53	Pass	QP
120.000	H	0.0	53.0	11.2	2.54	24.8	41.98	84.6	-42.62	Pass	PEAK
120.000	H	0.0	51.0	11.2	2.54	24.8	39.98	84.6	-44.62	Pass	QP
120.300	H	0.0	50.0	11.2	2.54	24.8	38.98	84.6	-45.62	Pass	PEAK
120.300	H	0.0	48.0	11.2	2.54	24.8	36.98	84.6	-47.62	Pass	QP
133.700	H	0.0	51.0	12.32	2.82	24.8	41.38	84.6	-43.22	Pass	PEAK
133.700	H	0.0	49.0	12.32	2.82	24.8	39.38	84.6	-45.22	Pass	QP
173.800	H	0.0	45.0	13.49	2.82	24.7	36.65	84.6	-47.95	Pass	PEAK

INTERNATIONAL COMPLIANCE CORPORATION

RADIATED EMISSIONS DATA
ELECTRIC FIELD

CLIENT NAME:	BOSCH TELECOM			W.O.#: 180036		DATE:	5/18/98
EUT MODEL:	CPE ROOF UNIT GHz			SERIAL #: MSN(69)		TIME:	1430
EUT CONFIG.:	TX 28.345 (HIGHER FREQUENCY0 20.0dBm (ACTUAL QPSK)					TECH.:	MARK SEVERSON
TEST SPECIFICATION:	2.993 (3M)					TEST NUMBER:	RE8
ROD ANT. #:		CABLE #:	2B	DETECT. TYPE:	QP	LOCATION:	BOATS
BICON ANT. #:	230	PREAMP. #:	398	RES. BW (kHz):	120	DISTANCE (m):	3M
LOG ANT. #:	200	LIMITER#	181	VIDEO BW (kHz):	N/A	EUT VOLTAGE:	16VDC
HORN ANT. #:		ATTEN.#:	N/A	TEMP. (deg. C):	25	EUT FREQ. (Hz):	N/A
DIPOLE ANT #:		DETECTOR#:	110	HUMIDITY (%):	42	PHOTO ID:	180036 RE8 RAD. EM.

Emission Frequency (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. Limit (dBuV/m)	CR/SL Delta (dB)	Pass Fail Marginal	Notes
173.800	H	0.0	42.0	13.49	2.82	24.7	33.65	84.6	-50.95	Pass	QP
328.000	V	0.0	34.0	16.7	4.63	24.6	30.71	84.6	-53.89	Pass	PEAK
328.000	V	0.0	31.0	16.7	4.63	24.6	27.71	84.6	-56.89	Pass	QP
632.000	V	0.0	38.0	21.98	7.29	24.8	42.52	84.6	-42.08	Pass	PEAK
632.000	V	0.0	36.5	21.98	7.29	24.8	41.02	84.6	-43.58	Pass	QP
960.000	V	0.0	35.0	22.98	9.17	24.8	42.32	84.6	-42.28	Pass	PEAK
960.000	V	0.0	27.0	22.98	9.17	24.8	34.32	84.6	-50.28	Pass	QP
328.000	H	0.0	36.0	16.7	4.63	24.6	32.71	84.6	-51.89	Pass	PEAK
328.000	H	0.0	34.0	16.7	4.63	24.6	30.71	84.6	-53.89	Pass	QP
344.100	H	0.0	36.0	15.68	4.63	24.6	31.69	84.6	-52.91	Pass	PEAK
344.100	H	0.0	34.0	15.68	4.63	24.6	29.69	84.6	-54.91	Pass	QP
632.000	H	0.0	36.0	21.98	7.29	24.8	40.52	84.6	-44.08	Pass	PEAK
632.000	H	0.0	34.0	21.98	7.29	24.8	38.52	84.6	-46.08	Pass	QP
960.000	H	0.0	31.0	22.98	9.17	24.8	38.32	84.6	-46.28	Pass	PEAK
960.000	H	0.0	28.0	22.98	9.17	24.8	35.32	84.6	-49.28	Pass	QP
											Scanned 30~~MHz~~-1~~GHz~~ MHz GHz

Page 2 of 2

Model

CUSTOMER PREMISES EQUIPMENT ROOF UNIT TRANSCEIVER (US)

Bosch Telecom, Inc.

FIELD STRENGTH OF SPURIOUS RADIATED EMISSIONS
SIMULATED QPSK SIGNAL (SCAN: 30 MHz - 1000 MHz)

INTERNATIONAL COMPLIANCE CORPORATION

RADIATED EMISSIONS DATA
ELECTRIC FIELD

CLIENT NAME:	BOSCH TELECOM		W.O.#: 180036	DATE:	5/04/98
EUT MODEL:	CPE ROOF UNIT GHz		SERIAL #: MSN(69)	TIME:	0920
EUT CONFIG.:	TX 28.107(~~LOWER~~ FREQUENCY) 20.0dBm(Simulated QPSK signal)			TECH.:	MARK SEVERSON
TEST SPECIFICATION:	2.993 (3M)			TEST NUMBER:	RE-02
ROD ANT. #:		CABLE #: 2B	DETECT. TYPE: QP	LOCATION:	BOATS
BICON ANT. #:	230	PREAMP. #: 398	RES. BW (kHz): 120	DISTANCE (m):	3M
LOG ANT. #:	227	LIMITER# 184	VIDEO BW (kHz): N/A	EUT VOLTAGE:	115VAC
HORN ANT. #:		ATTEN.#: N/A	TEMP. (deg. C): 20	EUT FREQ. (Hz):	60
DIPOLE ANT #:		DETECTOR#: A1,~~184~~	HUMIDITY (%): 39	PHOTO ID:	180036 RE-02 RAD. EM.

Emission Frequency (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. Limit (dBuV/m)	CR/SL Delta (dB)	Pass Fail Marginal	Notes
33.425	V	0.0	57.0	11.26	1.42	25.0	44.73	84.6	-39.87	Pass	PEAK
33.425	V	0.0	56.5	11.26	1.42	25.0	44.23	84.6	-40.37	Pass	QP
59.750	V	0.0	58.0	9.577	1.75	24.9	44.397	84.6	-40.203	Pass	PEAK
59.750	V	0.0	56.5	9.577	1.75	24.9	42.897	84.6	-41.703	Pass	QP
73.560	V	0.0	56.0	8.89	2.15	24.9	42.11	84.6	-42.49	Pass	PEAK
73.560	V	0.0	55.0	8.89	2.15	24.9	41.11	84.6	-43.49	Pass	QP
104.020	V	0.0	50.0	10.22	2.54	24.8	37.94	84.6	-46.66	Pass	PEAK
104.020	V	0.0	48.5	10.22	2.54	24.8	36.44	84.6	-48.16	Pass	QP
112.020	V	0.0	42.0	10.8	2.54	24.8	30.52	84.6	-54.08	Pass	PEAK
112.020	V	0.0	41.0	10.8	2.54	24.8	29.52	84.6	-55.08	Pass	QP
113.680	V	0.0	53.0	10.85	2.54	24.8	41.57	84.6	-43.03	Pass	PEAK
113.680	V	0.0	52.5	10.85	2.54	24.8	41.07	84.6	-43.53	Pass	QP
133.730	V	0.0	49.0	12.32	2.82	24.8	39.38	84.6	-45.22	Pass	PEAK
133.730	V	0.0	48.0	12.32	2.82	24.8	38.38	84.6	-46.22	Pass	QP
173.840	V	0.0	47.0	13.49	2.82	24.7	38.65	84.6	-45.95	Pass	PEAK
173.840	V	0.0	46.0	13.49	2.82	24.7	37.65	84.6	-46.95	Pass	QP
33.440	H	0.0	48.4	11.26	1.42	25.0	36.13	84.6	-48.47	Pass	PEAK
33.440	H	0.0	47.4	11.26	1.42	25.0	35.13	84.6	-49.47	Pass	QP
40.000	H	0.0	52.0	10.2	1.59	25.0	38.84	84.6	-45.76	Pass	PEAK
40.000	H	0.0	51.0	10.2	1.59	25.0	37.84	84.6	-46.76	Pass	QP
104.020	H	0.0	49.0	10.22	2.54	24.8	36.94	84.6	-47.66	Pass	PEAK
104.020	H	0.0	48.0	10.22	2.54	24.8	35.94	84.6	-48.66	Pass	QP
112.020	H	0.0	40.0	10.8	2.54	24.8	28.52	84.6	-56.08	Pass	PEAK
112.020	H	0.0	38.8	10.8	2.54	24.8	27.32	84.6	-57.28	Pass	QP
113.670	H	0.0	53.0	10.85	2.54	24.8	41.57	84.6	-43.03	Pass	PEAK
113.670	H	0.0	51.0	10.85	2.54	24.8	39.57	84.6	-45.03	Pass	QP
120.000	H	0.0	53.0	11.2	2.54	24.8	41.98	84.6	-42.62	Pass	PEAK
120.000	H	0.0	52.5	11.2	2.54	24.8	41.48	84.6	-43.12	Pass	QP
120.350	H	0.0	52.5	11.2	2.54	24.8	41.48	84.6	-43.12	Pass	PEAK
120.350	H	0.0	51.6	11.2	2.54	24.8	40.58	84.6	-44.02	Pass	QP
133.720	H	0.0	51.0	12.32	2.82	24.8	41.38	84.6	-43.22	Pass	PEAK

INTERNATIONAL COMPLIANCE CORPORATION

RADIATED EMISSIONS DATA
ELECTRIC FIELD

CLIENT NAME:	BOSCH TELECOM			W.O.#: 180036	DATE: 5/04/98
EUT MODEL:	CPE ROOF UNIT ~~GHz~~			SERIAL #: MSN(69)	TIME: 0920
EUT CONFIG.:	TX 28.107(~~LOWER~~ FREQUENCY) 20.0dBm(Simulated QPSK signal)				TECH.: MARK SEVERSON
TEST SPECIFICATION:	2.993 (3M)				TEST NUMBER: RE-02
ROD ANT. #:		CABLE #: 2B	DETECT. TYPE: QP		LOCATION: BOATS
BICON ANT. #:	230	PREAMP. #: 398	RES. BW (kHz): 120		DISTANCE (m): 3M
LOG ANT. #:	227	LIMITER# 184	VIDEO BW (kHz): N/A		EUT VOLTAGE: 115VAC
HORN ANT. #:		ATTEN.#: N/A	TEMP. (deg. C): 20		EUT FREQ. (Hz): 60
DIPOLE ANT #:		DETECTOR#: 69 ~~184~~	HUMIDITY (%): 39		PHOTO ID: 180036 RE-02 RAD. EM.

Emission Frequency (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. Limit (dBuV/m)	CR/SL Delta (dB)	Pass Fail Marginal	Notes
133.720	H	0.0	50.0	12.32	2.82	24.8	40.38	84.6	-44.22	Pass	QP
173.850	H	0.0	42.0	13.49	2.82	24.7	33.65	84.6	-50.95	Pass	PEAK
173.850	H	0.0	40.0	13.49	2.82	24.7	31.65	84.6	-52.95	Pass	QP
328.050	V	0.0	42.0	17.75	4.63	24.6	39.76	84.6	-44.84	Pass	PEAK
328.050	V	0.0	40.5	17.75	4.63	24.6	38.26	84.6	-46.34	Pass	QP
344.070	V	0.0	40.0	15.8	4.63	24.6	35.81	84.6	-48.79	Pass	PEAK
344.070	V	0.0	39.0	15.8	4.63	24.6	34.81	84.6	-49.79	Pass	QP
632.100	V	0.0	39.0	21	7.29	24.8	42.54	84.6	-42.06	Pass	PEAK
632.100	V	0.0	38.0	21	7.29	24.8	41.54	84.6	-43.06	Pass	QP
960.000	V	0.0	38.0	23.26	9.17	24.8	45.6	84.6	-39	Pass	PEAK
960.000	V	0.0	35.0	23.26	9.17	24.8	42.6	84.6	-42	Pass	QP
328.050	H	0.0	38.5	17.75	4.63	24.6	36.26	84.6	-48.34	Pass	PEAK
328.050	H	0.0	37.5	17.75	4.63	24.6	35.26	84.6	-49.34	Pass	QP
344.050	H	0.0	41.0	15.8	4.63	24.6	36.81	84.6	-47.79	Pass	PEAK
344.050	H	0.0	40.0	15.8	4.63	24.6	35.81	84.6	-48.79	Pass	QP
632.100	H	0.0	38.0	21	7.29	24.8	41.54	84.6	-43.06	Pass	PEAK
632.100	H	0.0	37.0	21	7.29	24.8	40.54	84.6	-44.06	Pass	QP
960.000	H	0.0	31.0	23.26	9.17	24.8	38.6	84.6	-46	Pass	PEAK
960.000	H	0.0	26.0	23.26	9.17	24.8	33.6	84.6	-51	Pass	QP
											SCANNED 30MHZ-1GHZ
											MHz GHz

Page 2 of 2

INTERNATIONAL COMPLIANCE CORPORATION

RADIATED EMISSIONS DATA
ELECTRIC FIELD

CLIENT NAME:	BOSCH TELECOM			W.O.#: 180036		DATE:	5/01/98
EUT MODEL:	CPE ROOF UNIT GHz			SERIAL #: MSN(69)		TIME:	1330
EUT CONFIG.:	TX 28.225(CENTER FREQUENCY) 20.0dBm(Simulated QPSK signal)					TECH.:	MARK SEVERSON
TEST SPECIFICATION:	2.993 (3M)					TEST NUMBER:	RE-01
ROD ANT. #:		CABLE #:	2B	DETECT. TYPE:	QP	LOCATION:	BOATS
BICON ANT. #:	230	PREAMP. #:	398	RES. BW (kHz):	120	DISTANCE (m):	3M
LOG ANT. #:	227	LIMITER#	184	VIDEO BW (kHz):	N/A	EUT VOLTAGE:	115VAC
HORN ANT. #:		ATTEN.#:	N/A	TEMP. (deg. C):	22	EUT FREQ. (Hz):	60
DIPOLE ANT #:		DETECTOR#:	1640	HUMIDITY (%):	40	PHOTO ID:	180036 RE-01 RAD. EM.

Emission Frequency (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. Limit (dBuV/m)	CR/SL Delta (dB)	Pass Fail Marginal	Notes
33.420	V	0.0	58.0	11.26	1.42	25.0	45.73	84.6	-38.87	Pass	PEAK
33.420	V	0.0	54.0	11.26	1.42	25.0	41.73	84.6	-42.87	Pass	QP
60.180	V	0.0	60.2	9.5	1.95	24.9	46.72	84.6	-37.88	Pass	PEAK
60.180	V	0.0	58.0	9.5	1.95	24.9	44.52	84.6	-40.08	Pass	QP
73.560	V	0.0	50.0	8.89	2.15	24.9	36.11	84.6	-48.49	Pass	PEAK
73.560	V	0.0	46.0	8.89	2.15	24.9	32.11	84.6	-52.49	Pass	QP
104.020	V	0.0	54.5	10.22	2.54	24.8	42.44	84.6	-42.16	Pass	PEAK
104.020	V	0.0	54.0	10.22	2.54	24.8	41.94	84.6	-42.66	Pass	QP
112.020	V	0.0	47.0	10.8	2.54	24.8	35.52	84.6	-49.08	Pass	PEAK
112.020	V	0.0	45.3	10.8	2.54	24.8	33.82	84.6	-50.78	Pass	QP
113.650	V	0.0	57.5	10.85	2.54	24.8	46.07	84.6	-38.53	Pass	PEAK
113.650	V	0.0	54.0	10.85	2.54	24.8	42.57	84.6	-42.03	Pass	QP
133.760	V	0.0	57.8	12.32	2.82	24.8	48.18	84.6	-36.42	Pass	PEAK
133.760	V	0.0	54.0	12.32	2.82	24.8	44.38	84.6	-40.22	Pass	QP
173.850	V	0.0	47.6	13.49	2.82	24.7	39.25	84.6	-45.35	Pass	PEAK
173.850	V	0.0	44.0	13.49	2.82	24.7	35.65	84.6	-48.95	Pass	QP
33.420	H	0.0	48.5	11.26	1.42	25.0	36.23	84.6	-48.37	Pass	PEAK
33.420	H	0.0	45.0	11.26	1.42	25.0	32.73	84.6	-51.87	Pass	QP
40.000	H	0.0	54.0	10.2	1.59	25.0	40.84	84.6	-43.76	Pass	PEAK
40.000	H	0.0	51.4	10.2	1.59	25.0	38.24	84.6	-46.36	Pass	QP
104.020	H	0.0	59.0	10.22	2.54	24.8	46.94	84.6	-37.66	Pass	PEAK
104.020	H	0.0	57.0	10.22	2.54	24.8	44.94	84.6	-39.66	Pass	QP
112.020	H	0.0	46.0	10.8	2.54	24.8	34.52	84.6	-50.08	Pass	PEAK
112.020	H	0.0	45.0	10.8	2.54	24.8	33.52	84.6	-51.08	Pass	QP
113.650	H	0.0	56.4	10.85	2.54	24.8	44.97	84.6	-39.63	Pass	PEAK
113.650	H	0.0	53.0	10.85	2.54	24.8	41.57	84.6	-43.03	Pass	QP
120.000	H	0.0	58.0	11.2	2.54	24.8	46.98	84.6	-37.62	Pass	PEAK
120.000	H	0.0	56.9	11.2	2.54	24.8	45.88	84.6	-38.72	Pass	QP
120.345	H	0.0	56.7	11.2	2.54	24.8	45.68	84.6	-38.92	Pass	PEAK
120.345	H	0.0	55.5	11.2	2.54	24.8	44.48	84.6	-40.12	Pass	QP
133.760	H	0.0	56.0	12.32	2.82	24.8	46.38	84.6	-38.22	Pass	PEAK

INTERNATIONAL COMPLIANCE CORPORATION

RADIATED EMISSIONS DATA
ELECTRIC FIELD

CLIENT NAME:	BOSCH TELECOM			W.O.#: 180036		DATE:	5/01/98
EUT MODEL:	CPE ROOF UNIT GHz			SERIAL #: MSN(69)		TIME:	1330
EUT CONFIG.:	TX 28.225(CENTER FREQUENCY) 20.0dBm(Simulated QPSK signal)					TECH.:	MARK SEVERSON
TEST SPECIFICATION:	2.993 (3M)					TEST NUMBER:	RE-01
ROD ANT. #:		CABLE #:	2B	DETECT. TYPE:	QP	LOCATION:	BOATS
BICON ANT. #:	230	PREAMP. #:	398	RES. BW (kHz):	120	DISTANCE (m):	3M
LOG ANT. #:	227	LIMITER#	184	VIDEO BW (kHz):	N/A	EUT VOLTAGE:	115VAC
HORN ANT. #:		ATTEN.#:	N/A	TEMP. (deg. C):	22	EUT FREQ. (Hz):	60
DIPOLE ANT #:		DETECTOR#:	641	HUMIDITY (%):	40	PHOTO ID:	180036 RE-01 RAD. EM.

Emission Frequency (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. Limit (dBuV/m)	CR/SL Delta (dB)	Pass Fail Marginal	Notes
133.760	H	0.0	53.0	12.32	2.82	24.8	43.38	84.6	-41.22	Pass	QP
173.850	H	0.0	44.0	13.49	2.82	24.7	35.65	84.6	-48.95	Pass	PEAK
173.850	H	0.0	40.5	13.49	2.82	24.7	32.15	84.6	-52.45	Pass	QP
328.050	V	0.0	36.5	17.75	4.63	24.6	34.26	84.6	-50.34	Pass	PEAK
328.050	V	0.0	34.8	17.75	4.63	24.6	32.56	84.6	-52.04	Pass	QP
632.090	V	0.0	36.0	21	7.29	24.8	39.54	84.6	-45.06	Pass	PEAK
632.090	V	0.0	34.6	21	7.29	24.8	38.14	84.6	-46.46	Pass	QP
960.000	V	0.0	36.0	23.26	9.17	24.8	43.6	84.6	-41	Pass	PEAK
960.000	V	0.0	27.0	23.26	9.17	24.8	34.6	84.6	-50	Pass	QP
328.050	H	0.0	39.0	17.75	4.63	24.6	36.76	84.6	-47.84	Pass	PEAK
328.050	H	0.0	38.0	17.75	4.63	24.6	35.76	84.6	-48.84	Pass	QP
344.070	H	0.0	37.0	15.8	4.63	24.6	32.81	84.6	-51.79	Pass	PEAK
344.070	H	0.0	35.0	15.8	4.63	24.6	30.81	84.6	-53.79	Pass	QP
632.090	H	0.0	35.0	21	7.29	24.8	38.54	84.6	-46.06	Pass	PEAK
632.090	H	0.0	34.0	21	7.29	24.8	37.54	84.6	-47.06	Pass	QP
960.000	H	0.0	31.0	23.26	9.17	24.8	38.6	84.6	-46	Pass	PEAK
960.000	H	0.0	29.0	23.26	9.17	24.8	36.6	84.6	-48	Pass	QP
											SCANNED 30MHZ-1GHZ MHz GHz

INTERNATIONAL COMPLIANCE CORPORATION

RADIATED EMISSIONS DATA
ELECTRIC FIELD

CLIENT NAME:	BOSCH TELECOM		W.O.#: 180036	DATE:	5/04/98
EUT MODEL:	CPE ROOF UNIT GHZ	SERIAL #:	MSN(69)	TIME:	0800
EUT CONFIG.:	TX 28.345 ~~(HIGH~~ FREQUENCY) 19.7dBm(Simulated QPSK signal)			TECH.:	MARK SEVERSON
TEST SPECIFICATION:	2.993 (3M)			TEST NUMBER:	RE-03A
ROD ANT. #:		CABLE #: 2B	DETECT. TYPE: QP	LOCATION:	BOATS
BICON ANT. #:	230	PREAMP. #: 398	RES. BW (kHz): 120	DISTANCE (m):	3M
LOG ANT. #:	227	LIMITER# 184	VIDEO BW (kHz): N/A	EUT VOLTAGE:	115VAC
HORN ANT. #:		ATTEN.#: N/A	TEMP. (deg. C): 20	EUT FREQ. (Hz):	60
DIPOLE ANT #:		DETECTOR#: 141842	HUMIDITY (%): 39	PHOTO ID:	180036 RE-03A RAD. EM.

Emission Frequency (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. Limit (dBuV/m)	CR/SL Delta (dB)	Pass Fail Marginal	Notes
33.440	V	0.0	61.0	11.26	1.42	25.0	48.73	84.6	-35.87	Pass	PEAK
33.440	V	0.0	60.0	11.26	1.42	25.0	47.73	84.6	-36.87	Pass	QP
59.780	V	0.0	59.0	9.577	1.75	24.9	45.397	84.6	-39.203	Pass	PEAK
59.780	V	0.0	57.0	9.577	1.75	24.9	43.397	84.6	-41.203	Pass	QP
73.560	V	0.0	51.0	8.89	2.15	24.9	37.11	84.6	-47.49	Pass	PEAK
73.560	V	0.0	50.0	8.89	2.15	24.9	36.11	84.6	-48.49	Pass	QP
104.020	V	0.0	50.0	10.22	2.54	24.8	37.94	84.6	-46.66	Pass	PEAK
104.020	V	0.0	48.0	10.22	2.54	24.8	35.94	84.6	-48.66	Pass	QP
112.020	V	0.0	41.0	10.8	2.54	24.8	29.52	84.6	-55.08	Pass	PEAK
112.020	V	0.0	39.0	10.8	2.54	24.8	27.52	84.6	-57.08	Pass	QP
113.660	V	0.0	49.0	10.85	2.54	24.8	37.57	84.6	-47.03	Pass	PEAK
113.660	V	0.0	48.0	10.85	2.54	24.8	36.57	84.6	-48.03	Pass	QP
133.740	V	0.0	48.0	12.32	2.82	24.8	38.38	84.6	-46.22	Pass	PEAK
133.740	V	0.0	47.0	12.32	2.82	24.8	37.38	84.6	-47.22	Pass	QP
173.840	V	0.0	47.0	13.49	2.82	24.7	38.65	84.6	-45.95	Pass	PEAK
173.840	V	0.0	46.0	13.49	2.82	24.7	37.65	84.6	-46.95	Pass	QP
33.420	H	0.0	54.0	11.26	1.42	25.0	41.73	84.6	-42.87	Pass	PEAK
33.420	H	0.0	53.0	11.26	1.42	25.0	40.73	84.6	-43.87	Pass	QP
40.000	H	0.0	40.0	10.2	1.59	25.0	26.84	84.6	-57.76	Pass	PEAK
40.000	H	0.0	39.0	10.2	1.59	25.0	25.84	84.6	-58.76	Pass	QP
104.020	H	0.0	44.0	10.22	2.54	24.8	31.94	84.6	-52.66	Pass	PEAK
104.020	H	0.0	43.0	10.22	2.54	24.8	30.94	84.6	-53.66	Pass	QP
112.020	H	0.0	37.0	10.8	2.54	24.8	25.52	84.6	-59.08	Pass	PEAK
112.020	H	0.0	36.0	10.8	2.54	24.8	24.52	84.6	-60.08	Pass	QP
113.670	H	0.0	48.0	10.85	2.54	24.8	36.57	84.6	-48.03	Pass	PEAK
113.670	H	0.0	47.0	10.85	2.54	24.8	35.57	84.6	-49.03	Pass	QP
120.000	H	0.0	47.0	11.2	2.54	24.8	35.98	84.6	-48.62	Pass	PEAK
120.000	H	0.0	46.0	11.2	2.54	24.8	34.98	84.6	-49.62	Pass	QP
120.350	H	0.0	47.0	11.2	2.54	24.8	35.98	84.6	-48.62	Pass	PEAK
120.350	H	0.0	45.0	11.2	2.54	24.8	33.98	84.6	-50.62	Pass	QP
133.720	H	0.0	49.0	12.32	2.82	24.8	39.38	84.6	-45.22	Pass	PEAK

INTERNATIONAL COMPLIANCE CORPORATION

RADIATED EMISSIONS DATA
ELECTRIC FIELD

CLIENT NAME:	BOSCH TELECOM			W.O.#: 180036		DATE:	5/04/98
EUT MODEL:	CPE ROOF UNIT			SERIAL #: MSN(69)		TIME:	0800
EUT CONFIG.:	TX 28.345 ~~(HIGH~~ FREQUENCY) 19.7dBm(Simulated QPSK signal)					TECH.:	MARK SEVERSON
TEST SPECIFICATION:	2.993 (3M)					TEST NUMBER:	RE-03A
ROD ANT. #:		CABLE #:	2B	DETECT. TYPE:	QP	LOCATION:	BOATS
BICON ANT. #:	230	PREAMP. #:	398	RES. BW (kHz):	120	DISTANCE (m):	3M
LOG ANT. #:	227	LIMITER#	184	VIDEO BW (kHz):	N/A	EUT VOLTAGE:	115VAC
HORN ANT. #:		ATTEN.#:	N/A	TEMP. (deg. C):	20	EUT FREQ. (Hz):	60
DIPOLE ANT #:		DETECTOR#:	184	HUMIDITY (%):	39	PHOTO ID:	180036 RE-03A RAD. EM.

Emission Frequency (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. Limit (dBuV/m)	CR/SL Delta (dB)	Pass Fail Marginal	Notes
133.720	H	0.0	48.0	12.32	2.82	24.8	38.38	84.6	-46.22	Pass	QP
173.850	H	0.0	43.0	13.49	2.82	24.7	34.65	84.6	-49.95	Pass	PEAK
173.850	H	0.0	41.0	13.49	2.82	24.7	32.65	84.6	-51.95	Pass	QP
											SCANNED 30-300~~MHZ~~ MHz

Page 2 of 2

INTERNATIONAL COMPLIANCE CORPORATION

RADIATED EMISSIONS DATA
ELECTRIC FIELD

CLIENT NAME:	BOSCH TELECOM			W.O.#: 180036		DATE:	5/01/98
EUT MODEL:	CPE ROOF UNIT ~~GHz~~ MHz			SERIAL #: MSN(69)		TIME:	1520
EUT CONFIG.:	TX 28.345(~~HIGH~~ FREQUENCY) 20.0dBm(Simulated QPSK signal)					TECH.:	MARK SEVERSON
TEST SPECIFICATION:	2.993 (3M)					TEST NUMBER:	RE-03
ROD ANT. #:		CABLE #:	2B	DETECT. TYPE:	QP	LOCATION:	BOATS
BICON ANT. #:	230	PREAMP. #:	398	RES. BW (kHz):	120	DISTANCE (m):	3M
LOG ANT. #:	227	LIMITER#	184	VIDEO BW (kHz):	N/A	EUT VOLTAGE:	115VAC
HORN ANT. #:		ATTEN.#:	N/A	TEMP. (deg. C):	22	EUT FREQ. (Hz):	60
DIPOLE ANT #:		DETECTOR#:	69 ~~184~~	HUMIDITY (%):	40	PHOTO ID:	180036 RE-03 RAD. EM.

Emission Frequency (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. Limit (dBuV/m)	CR/SL Delta (dB)	Pass Fail Marginal	Notes
328.050	H	0.0	36.5	17.75	4.63	24.6	34.26	84.6	-50.34	Pass	PEAK
328.050	H	0.0	35.0	17.75	4.63	24.6	32.76	84.6	-51.84	Pass	QP
344.070	H	0.0	36.0	15.8	4.63	24.6	31.81	84.6	-52.79	Pass	PEAK
344.070	H	0.0	35.0	15.8	4.63	24.6	30.81	84.6	-53.79	Pass	QP
632.100	H	0.0	35.0	21	7.29	24.8	38.54	84.6	-46.06	Pass	PEAK
632.100	H	0.0	33.5	21	7.29	24.8	37.04	84.6	-47.56	Pass	QP
960.000	H	0.0	32.0	23.26	9.17	24.8	39.6	84.6	-45	Pass	PEAK
960.000	H	0.0	27.0	23.26	9.17	24.8	34.6	84.6	-50	Pass	QP
328.050	V	0.0	33.5	17.75	4.63	24.6	31.26	84.6	-53.34	Pass	PEAK
328.050	V	0.0	32.0	17.75	4.63	24.6	29.76	84.6	-54.84	Pass	QP
344.070	V	0.0	36.0	15.8	4.63	24.6	31.81	84.6	-52.79	Pass	PEAK
344.070	V	0.0	35.4	15.8	4.63	24.6	31.21	84.6	-53.39	Pass	QP
632.100	V	0.0	36.0	21	7.29	24.8	39.54	84.6	-45.06	Pass	PEAK
632.100	V	0.0	35.5	21	7.29	24.8	39.04	84.6	-45.56	Pass	QP
960.000	V	0.0	36.0	23.26	9.17	24.8	43.6	84.6	-41	Pass	PEAK
960.000	V	0.0	30.0	23.26	9.17	24.8	37.6	84.6	-47	Pass	QP
											SCANNED 300~~MHZ~~-1~~GHZ~~ MHz GHz

Page 1 of 1

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Microwave Radiated Emissions Data

Complete X Preliminary ___ Page 1 of 1

Client: BOSCH TELECOM Test #: MW-2A W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 MW-2A

Technician: MARK SEVERSON Specification: CFR 47 2.993 Lab: BOATS Date: 5/04/98

Equipment Used: CF20,934,CF21,935,697

Configuration: TX 28.107GHZ (LOWER FREQUENCY) 20.0dBm (Simulated QPSK signal)
20.0dBm at 3m = 117.63dBuV/m

Bandwidth: 1MHZ Video Bandwidth: N/A Antenna Distance 3 m Detector:

Climatic Conditions:
Temperature: 22 C
Relative Humidity: 38 %
Atmospheric Pressure: 998 mbar

EUT Power: ___ 115 V.A.C. n/a 60 Hz X Peak
___ 208 V.A.C. n/a 50 Hz ___ Average
___ 230 V.A.C.
X Other 16VDC n/a 1 Phase n/a 3 Phase
dBc limit = -33dB

Freq. (GHz)	Meter Reading (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	RF Gain (dB)	4kHz RBW Correction Factor (dB)	Corrected Reading (dBuV/m)	dBc	Pol.	Comments:
20	47	40.3	24.5	40	-24	47.8	-69.8	H	Noise floor
24	49	40.4	26.9	40	-24	52.3	-65.3	H	Noise floor
26.55	58.5	40.5	28.1	40	-24	63.1	-54.5	H	
20	48	40.3	24.5	40	-24	48.8	-68.8	V	Noise floor
24	49	40.4	26.9	40	-24	52.3	-65.3	V	Noise floor
26.55	49.5	40.5	28.1	40	-24	54.1	-63.5	V	
27.510	50	43.4	0.54	0	-24	69.9	-47.7	H	Pilot tone
28.107	83.18	43.42	0.54	0	-24	103	-14.5	H	Noise floor
27.510	43	43.4	0.54	0	-24	62.9	-54.7	V	Pilot tone
28.107	33.8	43.42	0.54	0	-24	53.8	-63.9	V	Noise floor
									SCANNED
									18-40GHZ

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Microwave Radiated Emissions Data

Complete X Preliminary ___ Page 1 of 1

Client: BOSCH TELECOM Test #: MW-2D W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 MW-2D

Technician: MARK SEVERSON Specification: CFR 47 P. 2.993 Lab: BOATS Date: 6/10/98

Equipment Used: CF20,934,CF21,935,697

Configuration: TX 28.107GHZ LOWER FREQUENCY) 20.0dBm (SIMULATED QPSK)
20dBm at 10m = 107.63dBuV/m

Bandwidth: 1MHZ Video Bandwidth: 100Khz Antenna Distance 10 m Detector:

Climatic Conditions:
Temperature: 24 C
Relative Humidity: 38 %
Atmospheric Pressure: 998 mbar

EUT Power: ___ 115 V.A.C. N/A 60 Hz
___ 208 V.A.C. N/A 50 Hz
___ 230 V.A.C.
X Other 16VDC N/A 1 Phase n/a 3 Phase
dBc limit = -33

X Peak
___ Average

Freq. (GHz)	Meter Reading (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	RF Gain (dB)	4kHz RBW Correction Factor (dB)	Corrected Reading (dBuV/m)	dBc	Pol.	Comments:
26.550	36	40.5	0.54	0	-24	53	-54.6	H	
27.510	29	43.4	0.54	0	-24	48.9	-58.7	H	Noise floor
28.107	36	43.42	0.54	0	-24	56	-51.7	H	Fundamental
26.550	29	40.5	0.54	0	-24	46	-61.6	V	Noise floor
27.510	29	43.4	0.54	0	-24	48.9	-58.7	V	Noise floor
28.107	33	43.42	0.54	0	-24	53	-54.7	V	Fundamental
									SCANNED
									26-40GHZ

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Microwave Radiated Emissions Data

Complete X Preliminary ___ Page 1 of 1

Client: BOSCH TELECOM Test #: MW-1A W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 MW-1A

Technician: MARK SEVERSON Specification: CFR 47 2.993 Lab: BOATS Date: 5/05/98

Equipment Used: CF20,934,CF21,935,697

Configuration: TX 28.225GHZ (CENTER FREQUENCY) 20.0dBm (Simulated QPSK signal)
20.0dBm at 3m = 117.63dBuv/m

Bandwidth: 1MHZ Video Bandwidth: N/A Antenna Distance 3 m Detector:

Climatic Conditions:
Temperature: 22 C
Relative Humidity: 38 %
Atmospheric Pressure: 998 mbar

EUT Power: ___ 115 V.A.C. n/a 60 Hz X Peak
___ 208 V.A.C. n/a 50 Hz ___ Average
___ 230 V.A.C.
X Other -16vdc n/a 1 Phase n/a 3 Phase
dBc limit = -33dB

Freq. (GHz)	Meter Reading (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	RF Gain (dB)	4kHz RBW Correction Factor (dB)	Corrected Reading (dBuV/m)	dBc	Pol.	Comments:
20	47	40.3	24.5	40	-24	48	-69.8	H	NOISE FLOOR
24	47	40.4	26.9	40	-24	50	-67.3	H	NOISE FLOOR
26.550	59	40.5	28.1	40	-24	64	-54.0	H	
20	47	40.3	24.5	40	-24	48	-69.8	V	NOISE FLOOR
24	47	40.4	26.9	40	-24	50	-67.3	V	NOISE FLOOR
26.550	50	40.5	28.1	40	-24	55	-63.0	V	
27.510	51	43.4	0.54	0	-24	71	-46.7	H	Pilot tone
28.225	34	43.42	0.54	0	-24	54	-63.7	H	NOISE FLOOR
27.510	45	43.4	0.54	0	-24	65	-52.7	V	Pilot tone
28.225	34	43.42	0.54	0	-24	54	-63.7	V	NOISE FLOOR
									SCANNED
									18-40GHZ

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Microwave Radiated Emissions Data

Complete X Preliminary ___ Page 1 of 1

Client: BOSCH TELECOM Test #: MW-1D W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 MW-1D

Technician: MARK SEVERSON Specification: CFR 47 P. 2.993 Lab: BOATS Date: 6/10/98

Equipment Used: CF20,934,CF21,935,697

Configuration: TX 28.225GHZ (CENTER FREQUENCY) 20.0dBm (SIMULATED QPSK)
20dBm at 10m = 107.63dBuV/m

Bandwidth: 1MHZ Video Bandwidth: 100Khz Antenna Distance 10 m Detector:

Climatic Conditions:
Temperature: 24 C
Relative Humidity: 38 %
Atmospheric Pressure: 998 mbar

EUT Power: ___ 115 V.A.C. N/A 60 Hz
___ 208 V.A.C. N/A 50 Hz
___ 230 V.A.C.
X Other 16VDC N/A 1 Phase n/a 3 Phase
dBc limit = -33

X Peak
___ Average

Freq. (GHz)	Meter Reading (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	RF Gain (dB)	4kHz RBW Correction Factor (dB)	Corrected Reading (dBuV/m)	dBc	Pol.	Comments:
26.550	36	40.5	0.54	0	-24	53	-54.6	H	
27.510	29	43.4	0.54	0	-24	49	-58.7	H	Noise floor
28.225	36	43.42	0.54	0	-24	56	-51.7	H	Fundamental
26.550	29	40.5	0.54	0	-24	46	-61.6	V	Noise floor
27.510	29	43.4	0.54	0	-24	49	-58.7	V	Noise floor
28.225	33	43.42	0.54	0	-24	53	-54.7	V	Fundamental
									SCANNED
									26-40GHZ

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Microwave Radiated Emissions Data

Complete X Preliminary ___ Page 1 of 1

Client: BOSCH TELECOM Test #: MW-1C W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 MW-1C

Technician: MARK SEVERSON Specification: CFR 47 2.993 Lab: BOATS Date: 5/07/98

Equipment Used: CF20,CF21,697,958,879

Configuration: TX 28.225GHz (CENTER FREQUENCY) 20.0dBm (Simulated QPSK signal)
20.0dBm at 3m = 117.63dBuV/m

Bandwidth: 1MHZ Video Bandwidth: 100Khz Antenna Distance 3 m Detector:

Climatic Conditions:
Temperature: 22 C
Relative Humidity: 38 %
Atmospheric Pressure: 998 mbar

EUT Power: X 115 V.A.C. X 60 Hz X Peak
___ 208 V.A.C. ___ 50 Hz ___ Average
___ 230 V.A.C.
___ Other _____ ___ 1 Phase ___ 3 Phase

dBc limit = -33dB

Freq. (GHz)	Meter Reading (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	RF Gain (dB)	4kHz RBW Correction Factor (dB)	Corrected Reading (dBuV/m)	dBc	Pol.	Comments:
60.0	35	43.8	0.54	0	-24	55	-62.3	V	Noise floor
65.0	35	43.7	0.54	0	-24	55	-62.4	V	Noise floor
70.0	35	44.0	0.54	0	-24	56	-62.1	V	Noise floor
60.0	35	43.8	0.54	0	-24	55	-62.3	H	Noise floor
65.0	35	43.7	0.54	0	-24	55	-62.4	H	Noise floor
70.0	35	44.0	0.54	0	-24	56	-62.1	H	Noise floor
79.65	35	44.74	0.54	0	-24	56	-61.4	V	Noise floor
82.53	35	45.05	0.54	0	-24	57	-61.0	V	Noise floor
84.675	35	45.2	0.54	0	-24	57	-60.9	V	Noise floor
79.65	35	44.74	0.54	0	-24	56	-61.4	H	Noise floor
82.53	35	45.05	0.54	0	-24	57	-61.0	H	Noise floor
84.675	35	45.2	0.54	0	-24	57	-60.9	H	Noise floor

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Microwave Radiated Emissions Data
Continuation Page

Complete X Preliminary ___ Page 2 of 2

Client: BOSCH TELECOM Test #: MW-1C W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 MW-1C

Technician: MARK SEVERSON Specification: CFR 47 P 2.993 Lab: BOATS Date: 5/07/98

Freq. (GHz)	Meter Reading (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	RF Gain (dB)	4kHz RBW Correction Factor (dB)	Corrected Reading (dBuV/m)	dBc	Pol.	Comments:
									Below readings
									300Khz Res bw
									30Khz video bw
79.65	30	44.74	0.54	0	-18.8	56	-61.2	V	Noise floor
82.53	30	45.05	0.54	0	-18.8	57	-60.8	V	Noise floor
84.675	30	45.2	0.54	0	-18.8	57	-60.7	V	Noise floor
79.65	30	44.74	0.54	0	-18.8	56	-61.2	H	Noise floor
82.53	30	45.05	0.54	0	-18.8	57	-60.8	H	Noise floor
84.675	30	45.2	0.54	0	-18.8	57	-60.7	H	Noise floor
									Scanned
									60GHz-100GHz

REV 960717

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Microwave Radiated Emissions Data

Complete X Preliminary ___ Page 1 of 1

Client: BOSCH TELECOM Test #: MW-3A W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 MW-3A

Technician: MARK SEVERSON Specification: CFR 47 2.993 Lab: BOATS Date: 5/05/98

Equipment Used: CF20,934,CF21,935,697

Configuration: TX 28.345GHZ (HIGHER FREQUENCY) 20.0dBm (Simulated QPSK signal)
20.0dBm at 3m = 117.63dBuV/m

Bandwidth: 1MHZ Video Bandwidth: N/A Antenna Distance 3 m Detector:

Climatic Conditions:
Temperature: 22 C
Relative Humidity: 38 %
Atmospheric Pressure: 998 mbar

EUT Power: ___ 115 V.A.C. n/a 60 Hz X Peak
___ 208 V.A.C. n/a 50 Hz ___ Average
___ 230 V.A.C.
X Other 16vdc n/a 1 Phase n/a 3 Phase
dBc limit= -33dB

Freq. (GHz)	Meter Reading (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	RF Gain (dB)	4kHz RBW Correction Factor (dB)	Corrected Reading (dBuV/m)	dBc	Pol.	Comments:
20	47	40.3	24.5	40	-24	48	-69.8	H	NOISE FLOOR
24	47	40.4	26.9	40	-24	50	-67.3	H	NOISE FLOOR
26.550	58.5	40.5	28.1	40	-24	63	-54.5	H	
20	47	40.3	24.5	40	-24	48	-69.8	V	NOISE FLOOR
24	47	40.4	26.9	40	-24	50	-67.3	V	NOISE FLOOR
26.550	49.5	40.5	28.1	40	-24	54	-63.5	V	
27.510	51	43.4	0.54	0	-24	71	-46.7	H	Pilot tone
28.225	34	43.42	0.54	0	-24	54	-63.7	H	NOISE FLOOR
27.510	45	43.4	0.54	0	-24	65	-52.7	V	Pilot tone
28.225	34	43.42	0.54	0	-24	54	-63.0	V	NOISE FLOOR
									SCANNED
									18-40GHZ

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Microwave Radiated Emissions Data

Complete X Preliminary ___ Page 1 of 1

Client: BOSCH TELECOM Test #: MW-3F W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 MW-3F

Technician: MARK SEVERSON Specification: CFR 47 P. 2.993 Lab: BOATS Date: 6/10/98

Equipment Used: CF20,934,CF21,935,697

Configuration: TX 28.345GHZ (HIGHER FREQUENCY) 20.0dBm (SIMULATED QPSK)
20dBm at 10m = 107.63dBuV/m

Bandwidth: 1MHZ Video Bandwidth: 100Khz Antenna Distance 10 m Detector:

Climatic Conditions:
Temperature: 24 C
Relative Humidity: 38 %
Atmospheric Pressure: 998 mbar

EUT Power: ___ 115 V.A.C. N/A 60 Hz X Peak
___ 208 V.A.C. N/A 50 Hz ___ Average
___ 230 V.A.C.
X Other 16VDC N/A 1 Phase n/a 3 Phase
dBc limit = -33

Freq. (GHz)	Meter Reading (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	RF Gain (dB)	4kHz RBW Correction Factor (dB)	Corrected Reading (dBuV/m)	dBc	Pol.	Comments:
26.550	36	40.5	0.54	0	-24	53	-54.6	H	
27.510	29	43.4	0.54	0	-24	49	-58.7	H	Noise floor
28.345	36	43.42	0.54	0	-24	56	-51.7	H	Fundamental
26.550	29	40.5	0.54	0	-24	46	-61.6	V	Noise floor
27.510	29	43.4	0.54	0	-24	49	-58.7	V	Noise floor
28.345	34	43.42	0.54	0	-24	54	-53.7	V	Fundamental
									SCANNED
									26-40GHZ

DATACOMMON\FORMS\TESTDATASHEETS\MICRORE REV 030597

Dallas/Ft. Worth Headquarters:
802 N. Kealy
Lewisville, TX 75057
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Microwave Radiated Emissions Data

Complete ___ Preliminary X Page 1 of 1

Client: BOSCH TELECOM Test #: MW-3B W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 MW-3B

Technician: MARK SEVERSON Specification: CFR 47 2.993 Lab: BOATS Date: 5/06/98

Equipment Used: CF20,934,CF21,935,697

Configuration: TX 28.345GHZ (HIGHER FREQUENCY) 19.4dBm (Simulated QPSK signal)
20.0dBm at 3m = 117.63dBuv/m

Bandwidth: 1MHZ Video Bandwidth: N/A Antenna Distance 3 m Detector:

Climatic Conditions:
Temperature: 22 C
Relative Humidity: 38 %
Atmospheric Pressure: 998 mbar

EUT Power: ___ 115 V.A.C. n/a 60 Hz X Peak
___ 208 V.A.C. n/a 50 Hz ___ Average
___ 230 V.A.C.
X Other 16vdc n/a 1 Phase n/a 3 Phase
dBc limit = -33dB

Freq. (GHz)	Meter Reading (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	RF Gain (dB)	4kHz RBW Correction Factor (dB)	Corrected Reading (dBuV/m)	dBc	Pol.	Comments:
20	47	40.3	24.5	40	-24	48	-69.8	H	NOISE FLOOR
24	47	40.4	26.9	40	-24	50	-67.3	H	NOISE FLOOR
26.550	59	40.5	28.1	40	-24	64	-54.0	H	
20	47	40.3	24.5	40	-24	48	-69.8	V	NOISE FLOOR
24	47	40.4	26.9	40	-24	50	-67.3	V	NOISE FLOOR
26.550	50	40.5	28.1	40	-24	55	-63.0	V	

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Microwave Radiated Emissions Data

Complete X Preliminary ___ Page 1 of 2

Client: BOSCH TELECOM Test #: MW-3E W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 MW-3E

Technician: MARK SEVERSON Specification: CFR 47 2.993 Lab: BOATS Date: 5/07/98

Equipment Used: CF20,CF21,697,958,879

Configuration: TX 28.345GHZ (HIGHER FREQUENCY) 20.0dBm (Simulated QPSK signal)
20.0dBm at 3m = 117.63dBuV/m

Bandwidth: 1MHZ Video Bandwidth: 100Khz Antenna Distance 3 m Detector:

Climatic Conditions:
Temperature: 22 C
Relative Humidity: 38 %
Atmospheric Pressure: 998 mbar

EUT Power: X 115 V.A.C. X 60 Hz X Peak
___ 208 V.A.C. ___ 50 Hz ___ Average
___ 230 V.A.C.
___ Other _____ ___ 1 Phase ___ 3 Phase

dBc limit = -33dB

Freq. (GHz)	Meter Reading (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	RF Gain (dB)	4kHz RBW Correction Factor (dB)	Corrected Reading (dBuV/m)	dBc	Pol.	Comments:
60.0	35	43.8	0.54	0	-24	55.3	-62.3	V	Noise floor
65.0	35	43.7	0.54	0	-24	55.2	-62.4	V	Noise floor
70.0	35	44.0	0.54	0	-24	55.5	-62.1	V	Noise floor
60.0	35	43.8	0.54	0	-24	55.3	-62.3	H	Noise floor
65.0	35	43.7	0.54	0	-24	55.2	-62.4	H	Noise floor
70.0	35	44.0	0.54	0	-24	55.5	-62.1	H	Noise floor
79.650	35	44.74	0.54	0	-24	56.3	-61.4	V	Noise floor
82.530	35	45.05	0.54	0	-24	56.6	-61.0	V	Noise floor
85.035	35	45.2	0.54	0	-24	56.7	-60.9	V	Noise floor
79.650	35	44.74	0.54	0	-24	56.3	-61.4	H	Noise floor
82.530	35	45.05	0.54	0	-24	56.6	-61.0	H	Noise floor
85.035	35	45.2	0.54	0	-24	56.7	-60.9	H	Noise floor

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Microwave Radiated Emissions Data
Continuation Page

Complete X Preliminary ___ Page 2 of 2

Client: BOSCH TELECOM Test #: MW-3E W.O.#: 180036

EUT: CPE ROOF UNIT S/N: MSN(69) Photo ID: 180036 MW-3E

Technician: MARK SEVERSON Specification: CFR 47 P 2.993 Lab: BOATS Date: 5/07/98

Freq. (GHz)	Meter Reading (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	RF Gain (dB)	4kHz RBW Correction Factor (dB)	Corrected Reading (dBuV/m)	Spec. Limit (dBc)	Pol.	Comments:
									Below readings
									300Khz Res bw
									30Khz video bw
79.650	30	44.74	0.54	0	-18.8	56.5	-61.2	V	Noise floor
82.530	30	45.05	0.54	0	-18.8	56.8	-60.8	V	Noise floor
85.035	30	45.2	0.54	0	-18.8	56.9	-60.7	V	Noise floor
79.650	30	44.74	0.54	0	-18.8	56.5	-61.2	H	Noise floor
82.530	30	45.05	0.54	0	-18.8	56.8	-60.8	H	Noise floor
85.035	30	45.2	0.54	0	-18.8	56.9	-60.7	H	Noise floor
									Scanned
									60Ghz-100Ghz

REV 960717