

Produkte
Products

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<i>Test Report No.:</i>				<i>Page 1 of 30</i>	
Auftraggeber: <i>Client:</i>		Camera Vision Solutions, Inc. P.O Box 80249 Austin, TX 78708 United States			
Gegenstand der Prüfung: <i>Test item:</i>		On-board Video Vehicle Recorder			
Bezeichnung: <i>Identification:</i>		SentinelHDx	Serien-Nr.: <i>Serial No.</i>	Sr # 02 & Sr #10	
Wareneingangs-Nr.: <i>Receipt No.:</i>		1803269422	Eingangsdatum: <i>Date of receipt:</i>	06-11-2017	
Prüfort: <i>Testing location:</i>		Refer Page 5 of 30 for Test site details			
Prüfgrundlage: <i>Test specification:</i>		FCC Part 15 Subpart C 15.247 ANSI C63.10- 2013			
Prüfergebnis: <i>Test Result:</i>		Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n). <i>The test items passed the test specification(s).</i>			
Prüflaboratorium: <i>Testing Laboratory:</i>		TÜV Rheinland (India) Pvt. Ltd. 82/A, 3rd Main, West Wing, Electronic City Phase 1 Hosur Road, Bangalore – 560 100. India FCC Test Site Registration no.: 496599			
geprüft / tested by:		kontrolliert / reviewed by:			
08-11-2017	Santhosh S K Engineer		17-11-2017	Saibaba Siddapur Assistant Manager	
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>
Sonstiges / Other Aspects:		Class II Permissive change (FCC ID: 2AFS2-SHDX) and On receipt the equipment was in good condition.			
Abkürzungen:		Abbreviations:			
P(ass) = entspricht Prüfgrundlage		P(ass) = passed			
F(ail) = entspricht nicht Prüfgrundlage		F(ail) = failed			
N/A = nicht anwendbar		N/A = not applicable			
N/T = nicht getestet		N/T = not tested			
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</i>					

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 IndiaTel.: +9180 6723 3500 · Fax: +9180 6723 3542 · Web: <https://www.tuv.com>

TEST SUMMARY

Section	Test item	Result	Remarks
15.247 (a) (1)	20 dB Bandwidth	N/T	The Product is Certified with FCC ID: 2AFS2-SHDX from TÜV Rheinland India Private Limited with report number 19660221 001.
15.247 (a) (1)(III)	Number of Hopping frequencies	N/T	
15.247 (a)(1)	Carrier frequency separation	N/T	
15.247 (a)(1)(III)	Time of Occupancy (Dwell Time)	N/T	
15.247(d)	Band Edge of RF Conducted emission	N/T	
15.407	Conducted emission on A.C power lines	N/T	
15.247 (b)	Maximum Peak Conducted Output Power	PASS*	-
15.247 (d) / (15.209 & 15.205)	Restricted bands of Emissions & Restricted Bands of Operation	PASS	-

*: maximum peak conducted output power was verified.

Note: Device exclusively used in vehicle only, it will operate on vehicle battery & internal back up battery only.

DOCUMENT HISTORY:

Version	Remarks
1.0	Issued for C2PC (only Power verification & Radiated spurious emission was performed on product)

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1 GENERAL REMARKS

1.1 Complimentary Materials

All attachments are integral part of this test report. This applies especially to the following appendix:

APPENDIX 1: TEST SETUP PHOTOS

APPENDIX 2: EUT EXTERNAL PHOTOS

APPENDIX 3: EUT INTERNAL PHOTOS

APPENDIX 4: SCHEMATIC DIAGRAMS

APPENDIX 5: BILL OF MATERIALS

2 TEST SITES

2.1 Testing Facilities

TUV Rheinland (India) Private Limited
 108 , Beside ISBR Business School,
 Electronic city Phase I
 Bangalore - 560 100.

2.2 List of Test and Measurement Instruments

Table 1: List of test and measurement instruments

Equipment	Manufacturer	Model Name	Serial Number	Calibration Due Date	Periodicity	Used for Test Items
EMI Test Receiver	Rohde & Schwarz	ESU 40	100288	24-10-2018	Yearly	Radiated Spurious Emission
Active loop antenna	Frankonia	LAX-10	LAX-10-800	22-12-17	Yearly	
Baloon and Biconical Antenna	Schwarzbeck mess-elektronik	VHBB-9124 / BBA-9106	9124-656	09-01-18	Yearly	
Log-Periodic Antenna	Schwarzbeck mess-elektronik	VUSLP-9111B	9111B-111	10-01-18	Yearly	
Broadband Horn Antenna	Frankonia	HAX-18	HAX18-802	16-03-2018	Yearly	
Semi Anechoic Chamber	Frankonia	-	-	-	-	Antenna port Measurements
Signal Analyzer	Rohde & Schwarz	FSV7	101644	01-12-17	Yearly	

3 GENERAL PRODUCT INFORMATION

3.1 Product Function and Intended Use

Sentinel HDx unit is a Dual Camera Event Recorder and will be installed on the windshield of the vehicle. This product is going to be installed inside the vehicles like cars, truck, taxi etc.

3.2 Ratings and System Details

Table 2: Ratings and System Details

Operating Frequency Range	2400 MHz – 2483.5 MHz;
Radio Protocol	Bluetooth (BDR+EDR)
Verified RF Power	-2.41 dBm
Channel Spacing	1 MHz
Modulation	BDR (GFSK), EDR (Pi/4-DQPSK, 8DQPSK)
Number of antennas	2
Antenna Gain & Type	Refer Table 4 : Antenna Details
Supply Voltage to Product	9 to 17 VDC from Vehicle Battery; 3.0 to 4.2 VDC from Internal Battery
Environmental conditions	Storage: -20 °C to +60 °C; Operating: -10 °C to +50 °C;

3.3 Measurement Uncertainty:

Table 3: Measurement Uncertainty

Parameter	Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±1.5 dB
Power Spectral Density, conducted	±3 dB
Unwanted Emissions, conducted	±3 dB
All emissions, radiated	±6 dB
Temperature	±3 °C
Supply Voltages	±3 %
Time	±5 %

3.4 Antenna Details

Table 4 : Antenna Details

Make	TAIYO YUDEN	Laird
Model	AH 104N2450D1	WTS 2450
Antenna Gain	2.1 dBi (2.4 GHz Band) 2.4 dBi (5 GHz Band)	2.1 dBi (2.45 GHz Band) 2.6 dBi (5.25 GHz) & 3.4 dBi (5.875 GHz)
Type	Chip	External Two-Way Radio Antenna
Data Sheet	https://media.digikey.com/pdf/Data%20Sheets/Taiyo%20Yuden%20PDFs%20URL%20links/AH104N2450D1_Char.pdf	https://assets.lairdtech.com/home/brand/world/files/ANT-DS-WTS%202450%20080114.pdf

4 TEST SET-UP AND OPERATION MODE

4.1 Principle of Configuration Selection

Transmission was enabled with hopping mode / highest possible duty cycle transmission on low, mid and high channel.

4.2 Test Operation and Test Software

Testing software was used to enable the continuous transmission on low/mid/high channels on the EUT for the tests in this report.

Software Simulator used: "Tera Term or Putty"

Firmware Version: "3.1.5 RC1"

Hardware Version: "4.0"

4.3 Special Accessories and Auxiliary Equipment

- Debugger Board, Vehicle Battery, Power Cable was used during testing.

4.4 Countermeasures to achieve EMC Compliance

- None

4.5 Test modes – data rates and modulations

For Radiated spurious emissions, the tests were performed for all data rates and only worst case results are reported in this report.

Antenna Port measurements are performed on the following paths

Path A – J7 Connector –ANT1

Path B – J8 Connector – ANT2

Bluetooth (EDR+BDR) & Bluetooth LE will transmit only on ANT2 & Wi-Fi (IEEE802.11abgnHT20/HT40) will transmit on both ANT1 & ANT2

Product also has GPS functionality with operating frequency 1575.42MHz

Sample used for testing as identified with below number.

Sample Serial No.02

Sample Serial No.10

4.6 List of frequencies**Table 5: List of Center Frequencies**

Frequency Band (MHz)	Channel No.	Channel Frequency (MHz)
2400 – 2483.5 BT(BDR+EDR)	0	2402
	1	2403
	2	2404
	3	2405
	:	:
	:	:
	:	:
	37	2439
	38	2440
	39	2441
	40	2442
	:	:
	:	:
	:	:
	74	2476
	75	2477
	76	2478
	77	2479
	78	2480

5 TEST METHODOLOGY

5.1 Radiated Emission Test

The radiated emission measurement was performed according to the procedures in ANSI C63.10-2013. The equipment under test (EUT) was placed at the middle of the 80 cm high turntable for below 1 GHz & 1.5 m height for above 1 GHz measurement, and the EUT is 3 meters far from the measuring antenna. The turntable was rotated 360° for obtaining the maximum emission. The height of the measuring antennas was scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained. The measurement above 1000 MHz was performed by horn antenna, The measurement below 30 MHz was performed by loop antenna, Measurement from 30 MHz to 200 MHz was performed by Baloon and Biconical Antenna, and measurement from 200 MHz to 1 GHz was performed by Log-Periodic Antenna.

The EUT was rotated around the X-, Y-, and Z-Axis and the results from worst case axis are recorded.

5.1.1 Test Setup Configuration

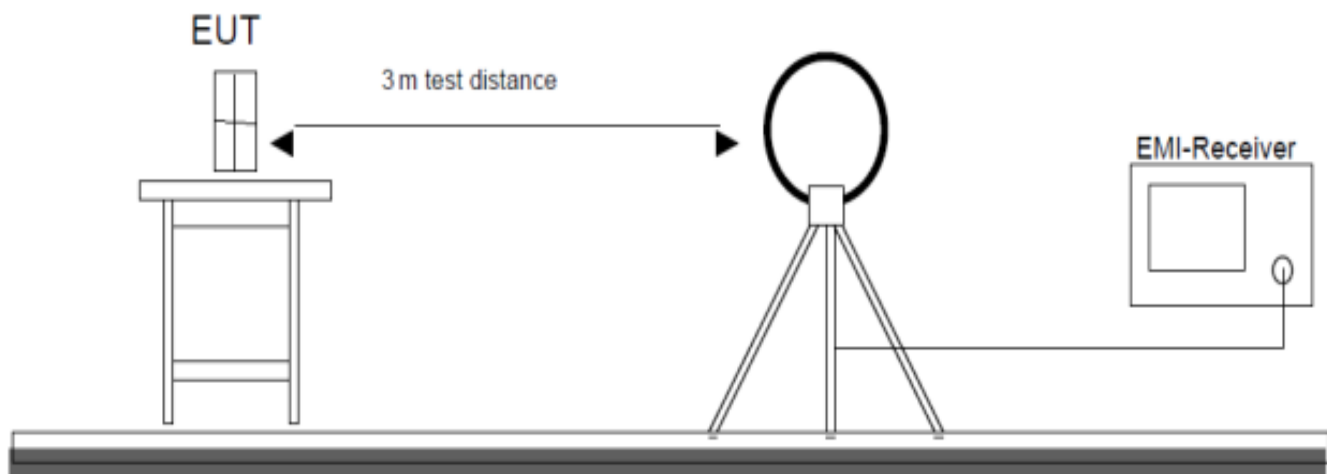
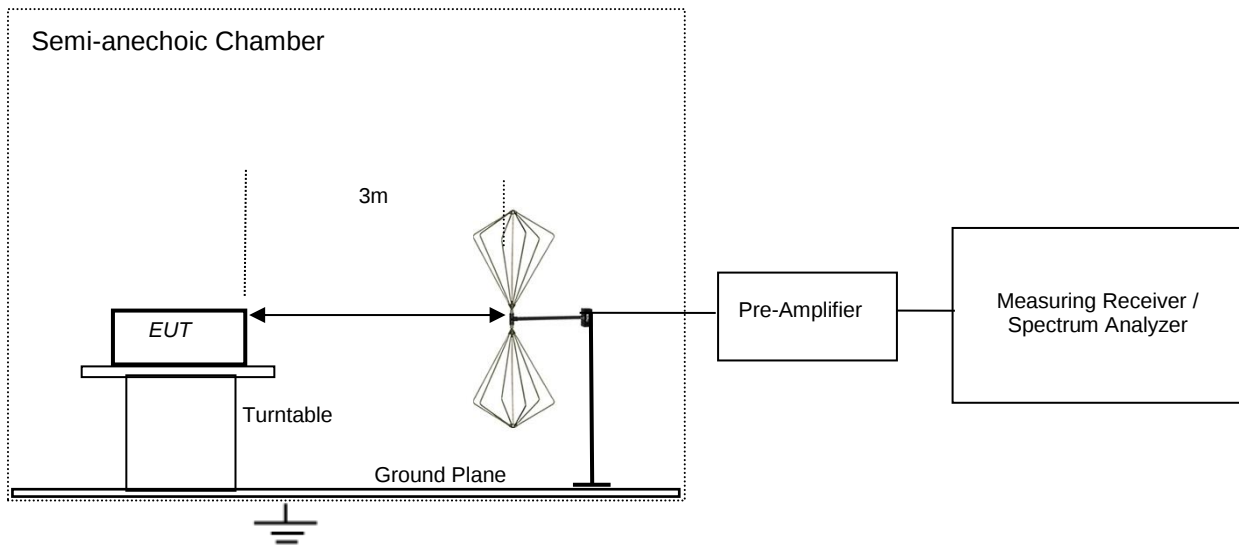
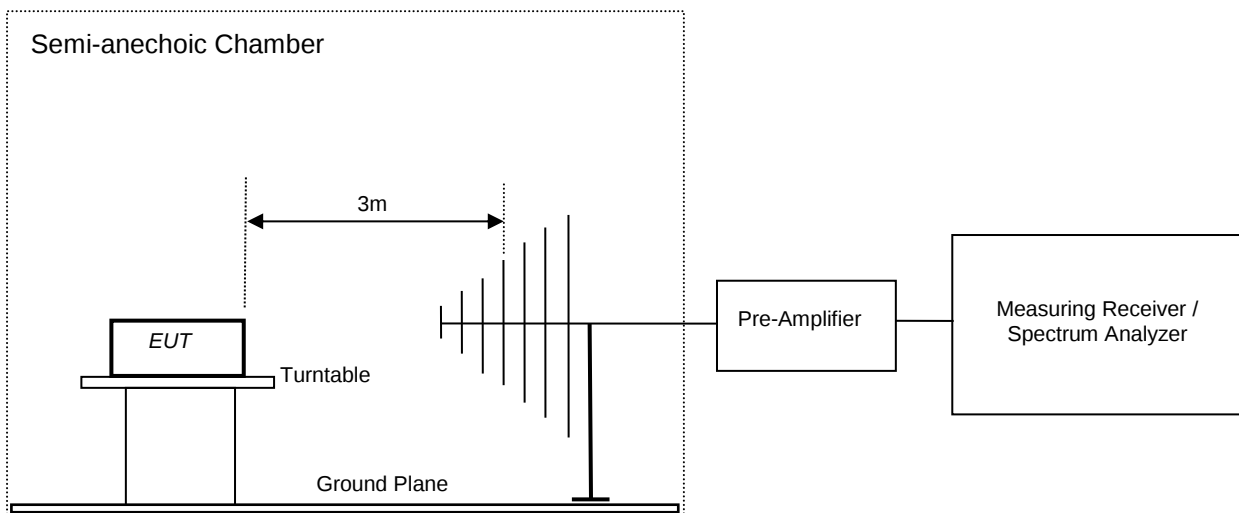
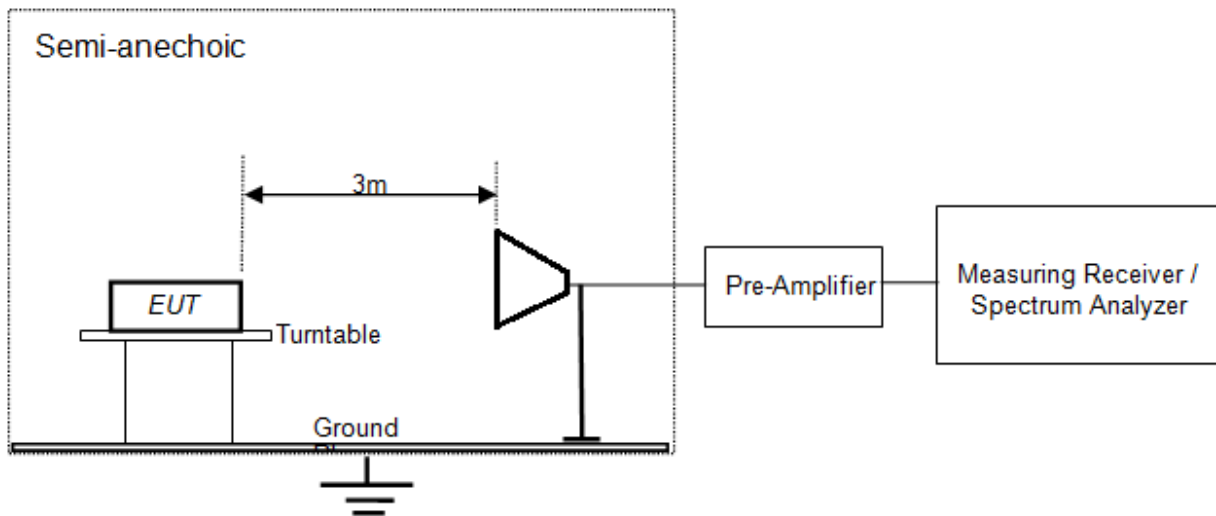


Figure 1: Frequency Range 9 kHz- 30 MHz


Figure 2: Frequency Range 30 MHz – 200 MHz

Figure 3: Frequency Range 200 MHz - 1GHz

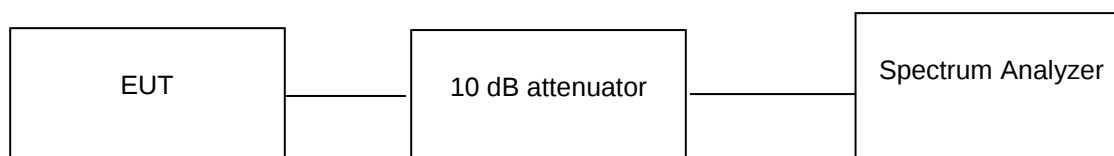
**Figure 4: Frequency Range above 1 GHz**

6 TEST RESULTS

6.1 Maximum Peak Conducted Output Power

Result
Pass

Test Specification	FCC part 15 Subpart C 15.247 (b)(1)
Measurement Bandwidth	1 / 3 MHz
Detector	Peak
Requirement	<125 mw



Test results:

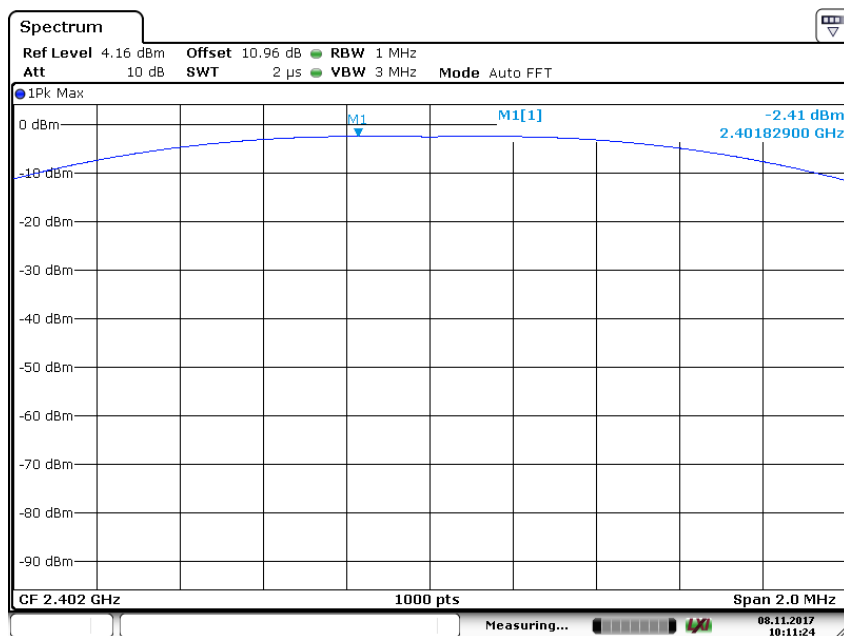
Note: Measurements are done as per FCC / DA-00-705, Filing and Measurement Guidelines for 15.247 Frequency Hopping Spread Spectrum (FHSS) Systems Mar.30, 2000 mentioned in ANSI C63.10-2013.

10 dB attenuator + 0.96 Cable loss = 10.96 dB offset is considered in below result

Table 6: Maximum peak conducted output power verified Test Results

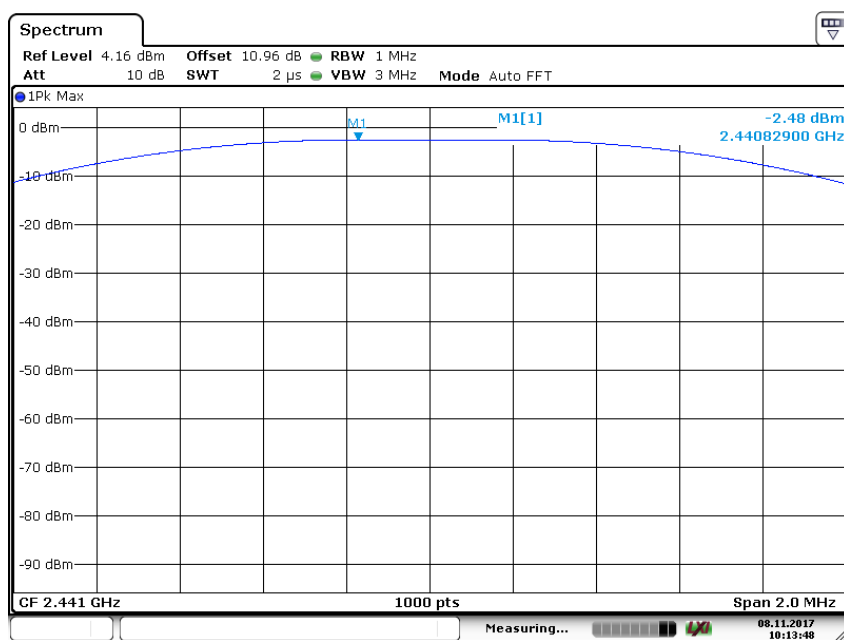
Modulation Type	Channel Frequency (MHz)	Output power (dBm)	Limit (dBm)
1 Mbps	2402	-2.41	20.96
	2441	-2.48	20.96
	2480	-2.69	20.96
2 Mbps	2402	-4.16	20.96
	2441	-4.21	20.96
	2480	-4.42	20.96
3 Mbps	2402	-4.25	20.96
	2441	-3.63	20.96
	2480	-3.85	20.96

Test Graph 1: 1 Mbps Channel low Power



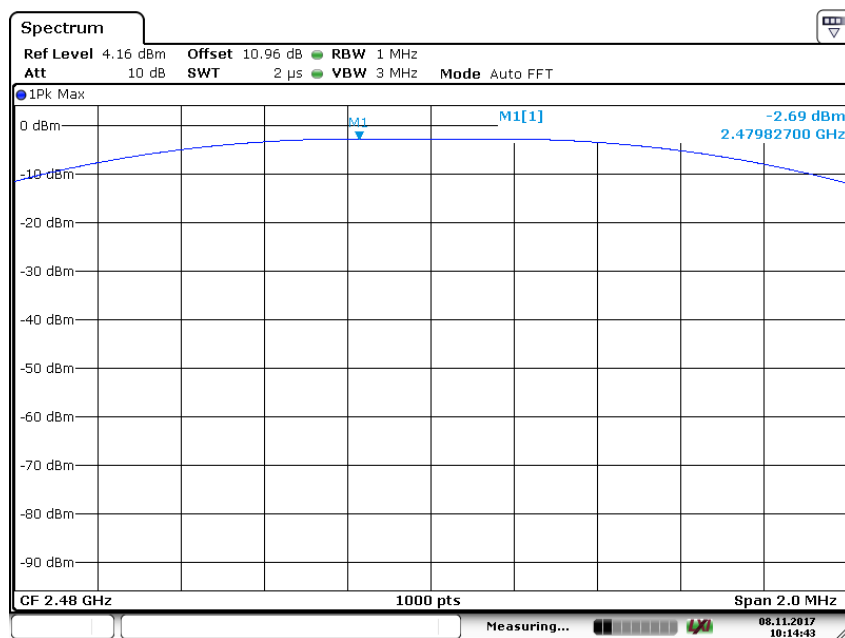
Date: 8 NOV 2017 10:11:23

Test Graph 2: 1 Mbps Channel mid Power

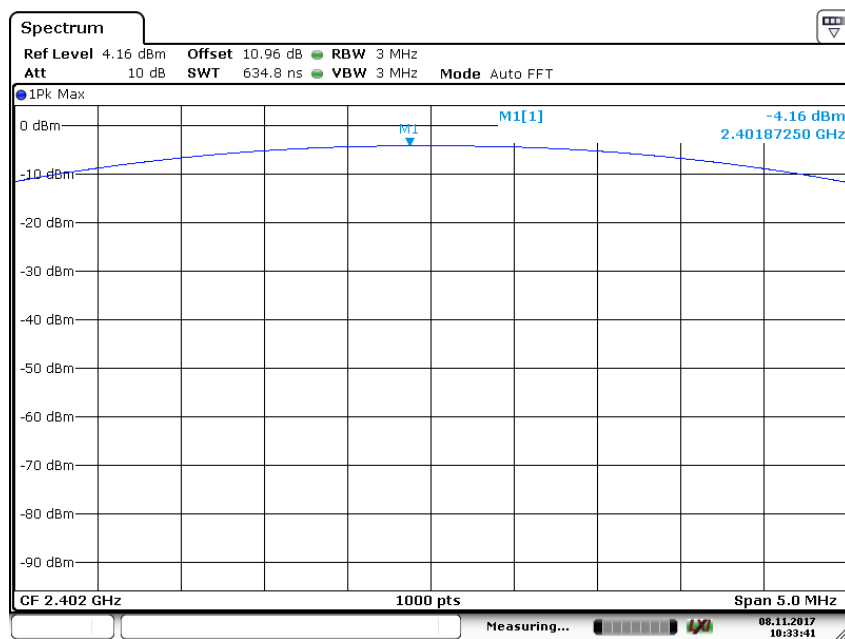


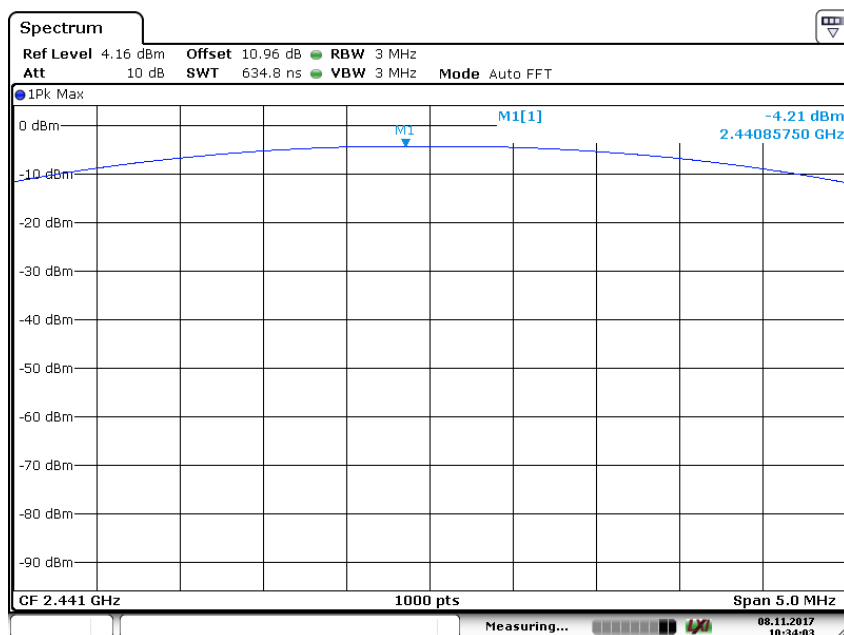
Date: 8 NOV 2017 10:13:48

Test Graph 3: 1 Mbps Channel high Power

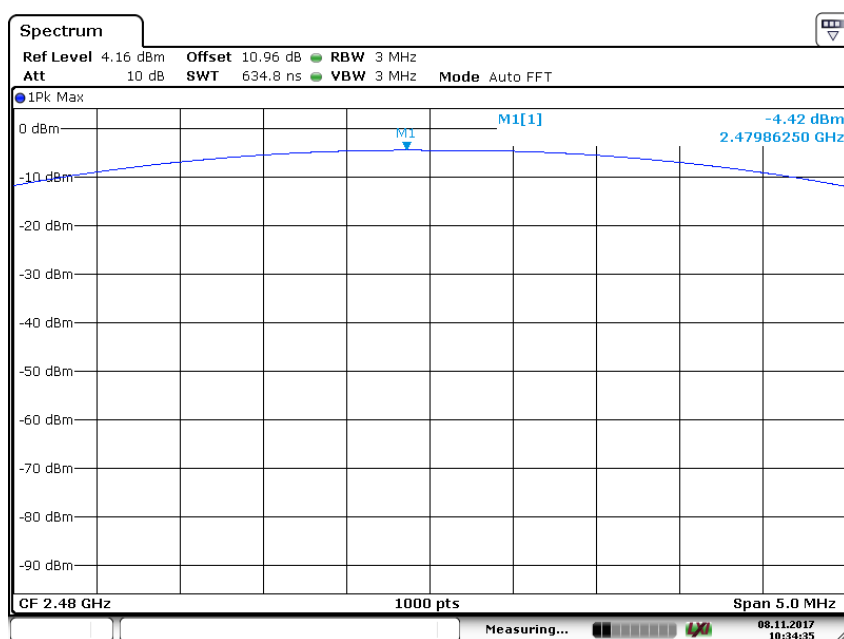


Test Graph 4: 2 Mbps Channel low Power



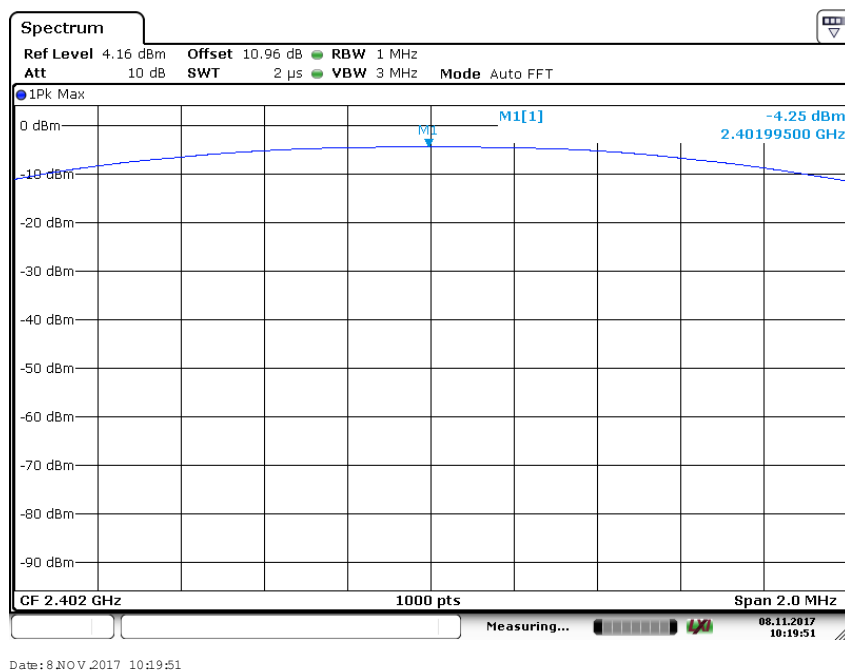
Test Graph 5: 2 Mbps Channel mid Power

Date: 8.NOV.2017 10:34:03

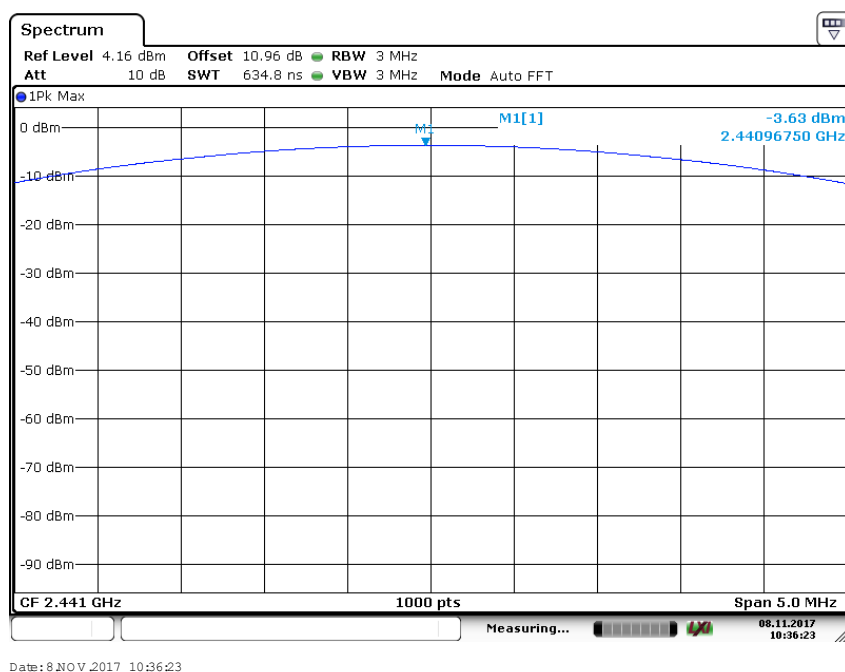
Test Graph 6: 2 Mbps Channel high Power

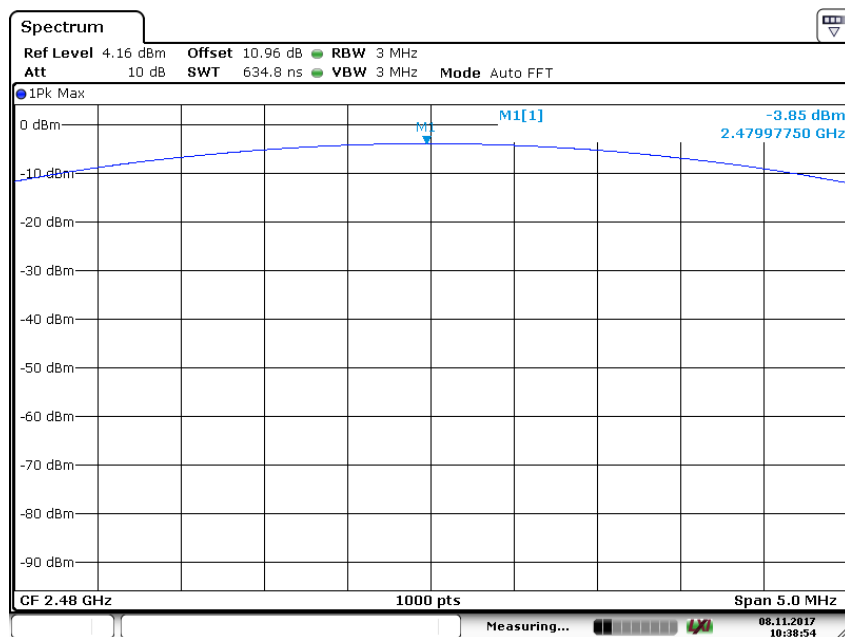
Date: 8.NOV.2017 10:34:35

Test Graph 7: 3 Mbps Channel low Power



Test Graph 8: 3 Mbps Channel mid Power



Test Graph 9: 3 Mbps Channel high Power

Date: 8 NOV 2017 10:38:54

6.2 Restricted bands of Emissions & Restricted Bands of Operation**Result****Pass**

Test Specification	FCC part 15 Subpart C Section 15.247 (d) / (15.209 & 15.205)
Test Method	ANSI C 63.10 - 2013
Measurement Location	Semi Anechoic Chamber
Measuring Distance	3 m
Detector	QP for frequency below 1 GHz, average for frequency above 1 GHz
Requirement	As per the limits mentioned in the below table

Table 7: Transmitter limits for Radiated emission of Section 15.209

Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Distance of Measurement (m)
0.009 – 0.490	2400/F(kHz)	48.50 – 13.80	300*
0.490 – 1.705	24000/F(kHz)	33.80 – 23.00	30*
1.705 -30	30	29.54	30*
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	500	54.0	3

Remark: * The limit shows in the table above of frequency range 0.009 – 0.490, 0.490 – 1.705 MHz and 1.705-30MHz is at 300 meter, 30 meter and 30 meter range respectively, which corresponds to 128.51 – 93.80, 73.80 – 62.96 and 69.54 dBμV/m at 3m range by extrapolation calculation and the measurement of loop antenna.

The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz Radiated emission limits in these three bands are based on measurements employing an average detector.

Test Conditions:

Supply Voltage: 12 VDC from Vehicle Battery and 3 to 4.2 VDC from Internal Back-up Battery.

Environmental conditions:

Temperature: +25.9 °C RH: 62.46 %

Test results:

No emissions found in frequency 9 kHz to 30 MHz

Note: The product has digital device (Camera interfaces, SD card, USB & GPI external Cable) which cannot control the functions of intentional radiator (Wi-Fi, BT(EDR+BDR), BLE)) in such condition Radiated spurious emission for the frequency range from 30MHz to 1GHz was performed as per FCC part 15 subpart B 15.109, Class A requirement & Product exclusively used in Vehicles. Only worst case test results are reported.

Table 8:FCC Part 15 Subpart B 15.109 Class A limits

Frequency MHz	Field Strength dBµV/m	Measured Distance	Field Strength (dBµV/m)
30-88	90.00	10.00	39.08
88-216	150.00	10.00	43.52
216-960	210.00	10.00	46.43
above 960	300.00	10.00	49.54

Table 9: Transmitter test results for the frequency 30 MHz – 200 MHz for Internal Battery

Frequency (MHz)	Polarization	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
45.67	Vertical	17.56	39.08	-21.52
46.24		17.81	39.08	-21.27
70.12		15.74	39.08	-23.34
92.49		22.21	43.52	-21.31
106.37		24.34	43.52	-19.18
119.98		24.74	43.52	-18.78
135.18		26.70	43.52	-16.82
46.20	Horizontal	20.13	39.08	-18.95
84.42		21.87	39.08	-17.21
96.30		20.44	43.52	-23.08
136.47		22.74	43.52	-20.78
192.01		21.82	43.52	-21.70

Table 10: Transmitter test results for the frequency 30 MHz – 200 MHz for External Battery

Frequency (MHz)	Polarization	Field Strength (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
41.28	Vertical	27.18	39.08	-11.90
42.44		25.46	39.08	-13.62
62.93		32.96	39.08	-6.12
67.83		34.93	39.08	-4.15
96.43		26.85	43.52	-16.67
140.00		26.73	43.52	-16.79
41.53	Horizontal	25.24	39.08	-13.84
67.53		20.37	39.08	-18.71
156.04		21.22	43.52	-22.30

Table 11: Transmitter test results for the frequency 200 MHz – 1 GHz for Internal Battery

Frequency (MHz)	Polarization	Field Strength (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
272.96	Vertical	40.84	46.43	-5.59
360.00		36.74	46.43	-9.69
400.00		37.70	46.43	-8.73
800.00		41.38	46.43	-5.05
880.08		43.60	46.43	-2.83
272.96	Horizontal	40.59	46.43	-5.84
400.00		41.36	46.43	-5.07
800.00		45.28	46.43	-1.15
960.00		40.70	46.43	-5.73

Table 12: Transmitter test results for the frequency 200 MHz – 1 GHz for External Battery

Frequency (MHz)	Polarization	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
272.96	Vertical	38.97	46.43	-7.46
380.00		40.70	46.43	-5.73
900.40		41.10	46.43	-5.33
240.00	Horizontal	41.94	46.43	-4.49
272.96		44.25	46.43	-2.18
400.00		43.18	46.43	-3.25
880.08		42.53	46.43	-3.90

Test results for the frequencies above 1 GHz are reported in below table.

Table 13: 1 Mbps_ Internal Antenna

Channel Frequency(MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2402.00	Vertical	2390(Pk)	40.49	74.00	-33.51
		2390(Av)	28.10	54.00	-25.90
		2402(Pk)	89.15	-	*
		2402(Av)	87.01	-	*
		4804(Pk)	49.78	74.00	-24.22
		4804(Av)	36.50	54.00	-17.50
		7206(Pk)	57.34	74.00	-16.66
		7206(Av)	44.13	54.00	-9.87

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2402.00	Horizontal	2390(Pk)	41.65	74.00	-32.35
		2390(Av)	29.01	54.00	-24.99
		2402(Pk)	90.78	-	*
		2402(Av)	88.79	-	*
		4804(Pk)	49.88	74.00	-24.12
		4804(Av)	36.51	54.00	-17.49
		7206(Pk)	58.23	74.00	-15.77
		7206(Av)	44.10	54.00	-9.90
2441.00	Vertical	2441(Pk)	89.67	-	*
		2441(Av)	87.71	-	*
		4882(Pk)	50.94	74.00	-23.06
		4882(Av)	36.92	54.00	-17.08
		7323(Pk)	57.69	74.00	-16.31
		7323(Av)	45.88	54.00	-8.12
	Horizontal	2441(Pk)	89.05	-	*
		2441(Av)	86.43	-	*
		4882(Pk)	50.74	74.00	-23.26
		4882(Av)	36.90	54.00	-17.10
		7323(Pk)	61.01	74.00	-12.99
		7323(Av)	45.47	54.00	-8.53
2480.00	Vertical	2480(Pk)	90.73	-	*
		2480(Av)	88.77	-	*
		2483.5(Pk)	43.29	74.00	-30.71
		2483.5(Av)	28.63	54.00	-25.37
		4960(Pk)	50.88	74.00	-23.12
		4960(Av)	37.04	54.00	-16.96
		7440(Pk)	59.40	74.00	-14.60
		7440(Av)	45.89	54.00	-8.11

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2480.00	Horizontal	2480(Pk)	88.19	-	*
		2480(Av)	84.30	-	*
		2483.5(Pk)	40.44	74.00	-33.56
		2483.5(Av)	28.19	54.00	-25.81
		4960(Pk)	50.76	74.00	-23.24
		4960(Av)	37.04	54.00	-16.96
		7440(Pk)	59.81	74.00	-14.19
		7440(Av)	46.05	54.00	-7.95

Table 14: 2 Mbps_Internal Antenna

Channel Frequency(MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2402.00	Vertical	2390(Pk)	38.90	74.00	-35.10
		2390(Av)	25.56	54.00	-28.44
		2402(Pk)	85.48	-	*
		2402(Av)	80.77	-	*
		4804(Pk)	49.83	74.00	-24.17
		4804(Av)	36.56	54.00	-17.44
		7206(Pk)	57.98	74.00	-16.02
		7206(Av)	44.10	54.00	-9.90
	Horizontal	2390(Pk)	39.04	74.00	-34.96
		2390(Av)	25.51	54.00	-28.49
		2402(Pk)	85.92	-	*
		2402(Av)	80.46	-	*
		4804(Pk)	50.06	74.00	-23.94
		4804(Av)	36.53	54.00	-17.47
		7206(Pk)	57.95	74.00	-16.05
		7206(Av)	44.07	54.00	-9.93

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2441.00	Vertical	2441(Pk)	86.29	-	*
		2441(Av)	81.44	-	*
		4882(Pk)	51.45	74.00	-22.55
		4882(Av)	36.85	54.00	-17.15
		7323(Pk)	58.49	74.00	-15.51
		7323(Av)	44.57	54.00	-9.43
	Horizontal	2441(Pk)	81.58	-	*
		2441(Av)	80.11	-	*
		4882(Pk)	50.67	74.00	-23.33
		4882(Av)	36.85	54.00	-17.15
		7323(Pk)	58.03	74.00	-15.97
		7323(Av)	44.59	54.00	-9.41
2480.00	Vertical	2480(Pk)	87.28	-	*
		2480(Av)	82.14	-	*
		2483.5(Pk)	42.87	74.00	-31.13
		2483.5(Av)	26.18	54.00	-27.82
		4960(Pk)	50.70	74.00	-23.30
		4960(Av)	37.06	54.00	-16.94
		7440(Pk)	59.03	74.00	-14.97
		7440(Av)	45.51	54.00	-8.49
	Horizontal	2480(Pk)	84.04	-	*
		2480(Av)	79.18	-	*
		2483.5(Pk)	39.57	74.00	-34.43
		2483.5(Av)	25.38	54.00	-28.62
		4960(Pk)	50.82	74.00	-23.18
		4960(Av)	37.04	54.00	-16.96
		7440(Pk)	58.99	74.00	-15.01
		7440(Av)	45.31	54.00	-8.69

Table 15: 3 Mbps_ Internal Antenna

Channel Frequency(MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2402.00	Vertical	2390(Pk)	38.83	74.00	-35.17
		2390(Av)	25.52	54.00	-28.48
		2402(Pk)	85.75	-	*
		2402(Av)	80.09	-	*
		4804(Pk)	50.15	74.00	-23.85
		4804(Av)	36.55	54.00	-17.45
		7206(Pk)	57.60	74.00	-16.40
		7206(Av)	44.17	54.00	-9.83
	Horizontal	2390(Pk)	38.76	74.00	-35.24
		2390(Av)	25.54	54.00	-28.46
		2402(Pk)	87.55	-	*
		2402(Av)	82.13	-	*
		4804(Pk)	50.64	74.00	-23.36
		4804(Av)	36.53	54.00	-17.47
		7206(Pk)	58.07	74.00	-15.93
		7206(Av)	44.12	54.00	-9.88
2441.00	Vertical	2441(Pk)	87.36	-	*
		2441(Av)	81.97	-	*
		4882(Pk)	50.69	74.00	-23.31
		4882(Av)	36.96	54.00	-17.04
		7323(Pk)	58.13	74.00	-15.87
		7323(Av)	44.52	54.00	-9.48
	Horizontal	2441(Pk)	86.68	-	*
		2441(Av)	80.70	-	*
		4882(Pk)	50.69	74.00	-23.31
		4882(Av)	36.91	54.00	-17.09
		7323(Pk)	58.19	74.00	-15.81
		7323(Av)	44.55	54.00	-9.45

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2480.00	Vertical	2480(Pk)	88.57	-	*
		2480(Av)	82.54	-	*
		2483.5(Pk)	45.19	74.00	-28.81
		2483.5(Av)	27.70	54.00	-26.30
		4960(Pk)	50.63	74.00	-23.37
		4960(Av)	37.07	54.00	-16.93
		7440(Pk)	59.82	74.00	-14.18
		7440(Av)	45.40	54.00	-8.60
	Horizontal	2480(Pk)	85.52	-	*
		2480(Av)	79.26	-	*
		2483.5(Pk)	42.84	74.00	-31.16
		2483.5(Av)	26.21	54.00	-27.79
		4960(Pk)	51.03	74.00	-22.97
		4960(Av)	37.08	54.00	-16.92
		7440(Pk)	59.31	74.00	-14.69
		7440(Av)	45.33	54.00	-8.67

Table 16: 1 Mbps_ External Antenna

Channel Frequency(MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
2402.00	Vertical	2390(Pk)	42.03	74.00	-31.97
		2390(Av)	28.97	54.00	-25.03
		2402(Pk)	92.53	-	*
		2402(Av)	90.27	-	*
		4804(Pk)	50.38	74.00	-23.62
		4804(Av)	36.54	54.00	-17.46
		7206(Pk)	57.76	74.00	-16.24
		7206(Av)	45.67	54.00	-8.33

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2402.00	Horizontal	2390(Pk)	40.26	74.00	-33.74
		2390(Av)	26.95	54.00	-27.05
		2402(Pk)	88.74	-	*
		2402(Av)	86.76	-	*
		4804(Pk)	50.07	74.00	-23.93
		4804(Av)	36.45	54.00	-17.55
		7206(Pk)	57.62	74.00	-16.38
		7206(Av)	44.52	54.00	-9.48
2441.00	Vertical	2441(Pk)	94.88	-	*
		2441(Av)	92.90	-	*
		4882(Pk)	50.25	74.00	-23.75
		4882(Av)	36.87	54.00	-17.13
		7323(Pk)	58.55	74.00	-15.45
		7323(Av)	44.53	54.00	-9.47
	Horizontal	2441(Pk)	89.60	-	*
		2441(Av)	87.63	-	*
		4882(Pk)	50.47	74.00	-23.53
		4882(Av)	36.88	54.00	-17.12
		7323(Pk)	58.22	74.00	-15.78
		7323(Av)	44.68	54.00	-9.32
2480.00	Vertical	2480(Pk)	95.45	-	*
		2480(Av)	92.55	-	*
		2483.5(Pk)	42.98	74.00	-31.02
		2483.5(Av)	30.32	54.00	-23.68
		4960(Pk)	50.82	74.00	-23.18
		4960(Av)	37.13	54.00	-16.87
		7440(Pk)	59.25	74.00	-14.75
		7440(Av)	46.65	54.00	-7.35

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2480.00	Horizontal	2480(Pk)	88.20	-	*
		2480(Av)	85.65	-	*
		2483.5(Pk)	40.20	74.00	-33.80
		2483.5(Av)	28.38	54.00	-25.62
		4960(Pk)	50.87	74.00	-23.13
		4960(Av)	37.37	54.00	-16.63
		7440(Pk)	59.69	74.00	-14.31
		7440(Av)	46.78	54.00	-7.22

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