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Prüfbericht - Nr.:	19660221 002			Seite 1 von 63
Test Report No: Auftraggeber:				Page 1 of 6
Client:	Camera Vision Soluti	ons, Inc.		
	P.O Box 80249			
	Austin, TX 78708			•
	United States			
Gegenstand der Prüfung: Test item:	On-board Video Vehic	cle Recorder		
Bezeichnung: Identification:	SentinelHDx	Serien-Nr.: Serial No.	Sr#2&Sr #	‡ 10
Wareneingangs-Nr.: Receipt No.:	1803269422	Eingangsdatu Date of receipt.		2017
Prüfort: Testing location:	Refer Page 5 of 63 fo	r Test sites details		
Prüfgrundlage: Test specification:	FCC Part 15 Subpart ANSI C63.10- 2013	C 15.247		
Prüfergebnis: Test Result:	Der Prüfgegenstand e The test items passed	entspricht oben gen the test specification	annter Prüfgrund (s).	lage(n).
Prüflaboratorium:	TÜV Rheinland (India)	Pvt. Ltd.		
Testing Laboratory:	82/A, 3rd Main, West W Hosur Road, Bangalore	Ving, Electronic City F	Phase 1	
	FCC Test Site Registra			
geprüft / tested by:		kontrolliert / review	ved by:	
Engineer	Santhosh's 5.	17-11-2017 Saibal	oa Siddapur nt Manager	aloa
Datum Name/Stellun Name/Position		Datum Name/	Stellung	Unterschrift
Sonstiges /Other Aspects:	Class II Permissive Chawas in good condition.		[⊵] osition ?-SHDX) and On re	Signature equipment
F(ail) = en N/A = ni	ntspricht Prüfgrundlage htspricht nicht Prüfgrundlage cht anwendbar cht getestet	Abbreviations:	P(ass) = passed F(ail) = failed N/A = not appli N/T = not teste	

Dieser Prufbericht 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.

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.

TÜV Rheinland India Pvt. Ltd. 82/A, 3rd Main, West Wing Electronic City Phase 1, Hosur Road, Bangalore-560100, IndiaTel.: +9180 6723 3500 · Fax: +9180 6723 3542 · Web: https://www.tuv.com

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TEST SUMMARY

Section	Test item	Result	Remarks
15.247 (a) (2)	DTS Bandwidth	N/T	
15.247 (e)	Maximum power Spectral Density	N/T	The Product is Certified with FCC ID: 2AFS2 – SHDX
15.247 (d)	Emissions in non- restricted frequency bands	N/T	from TUV Rheinland India Private Limited with report number 19660221 001.
15.207	Conducted emission on A.C Power lines	N/T	
15.247 (b)(3)	Maximum conducted Output Power	PASS*	-
15.247 (d) / (15.209 & 15.205)	Restricted bands of Emissions & Restricted Bands of Operation	PASS	-

^{*:} Maximum average conducted output power was verified on a random data rate in both path A and path B.

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

DOCUMENT HISTORY:

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

Test Report No.:

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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

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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	
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	Radiated Spurious Emission
Broadband Horn Antenna	Frankonia	HAX-18	HAX18-802	16-03-2018	Yearly	
Semi Anechoic Chamber	Frankonia	-	-	-	-	
Signal Analyzer	Rohde & Schwarz	FSV7	101644	01-12-17	Yearly	Antenna port Measurements

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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	Wi- Fi, BT LE
Channel Spacing	5 MHz – Wi – Fi; 2 MHz – BT LE
Data Rate	802.11 b: 1, 2, 5.5, 11 Mbps 802.11 g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11.n : Refer Data Rate 1 :
Verified Power	802.11 b: 12.07 dBm 802.11 g: 08.75 dBm 802.11 n HT20: 07.74 dBm 802.11 n HT40: 08.98 dBm BTLE: -2.45 dBm
Modulation	802.11b: DSSS with CCK 802.11g: OFDM with BPSK, QPSK, 16-QAM, 64-QAM 802.11n: OFDM with BPSK, QPSK, 16-QAM, 64-QAM
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;	

Data Rate 1:

802.11 n HT 20: 6.5, 13, 19.5, 26, 39, 52, 58.5,65, 13, 26, 39, 52, 78, 104,117 & 130 Mbps 802.11 n HT 40: 13.5, 27, 40.5, 54, 81, 108, 121.5, 135, 27, 54, 81, 108, 162, 216, 243, 270 Mbps

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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 ℃
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)
Туре	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

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4 TEST SET-UP AND OPERATION MODE

4.1 Principle of Configuration Selection

Transmission was enabled with continuous transmission on low, mid and high channel.

4.2 Test Operation and Test Software

Testing software was used to enable the continuous transmission, changing (low / mid / high) channels and data rates 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

Blueooth BDR+EDR,Bluetooth LE will transmit only on ANT2 & Wi-Fi (IEEE802.11 abgnHT20 / 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

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4.6 List of frequencies

Table 5: List of Center Frequiences

Frequency Band	Oh ann al Nia	Channel Frequency	
(MHz)	Channel No.	(MHz)	
	1	2412	
	2	2417	
	3	2422	
2400 – 2483.5	4	2427	
	5	2432	
(20MHz Bandwidth)_	6	2437	
Wi-Fi	7	2442	
	8	2447	
	9	2452	
	10	2457	
	11	2462	
	3	2422	
	4	2427	
2400 – 2483.5	5	2432	
	6	2437	
(40MHz Bandwidth)_Wi-Fi	7	2442	
	8	2447	
	9	2452	
	10	2457	
	0	2402	
	1	2404	
	2	2406	
	3	2408	
	:	<u>:</u>	
	:	<u>:</u>	
2400 – 2483.5	18	2438	
(2MHz Bandwidth)_BT LE	19	2440	
(Zimiz Bandwidth)_B1 EE	20	2437	
	:	:	
	:	:	
	36	2474	
	37	2476	
	38	2478	
	39	2480	

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TEST METHODOLOGY 5

Radiated Emission Test 5.1

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 below 30 MHz was performed by loop antenna, Measurement from 30 MHz to 200 MHz was performed by Baloon and Biconical Antenna, and mesurement 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

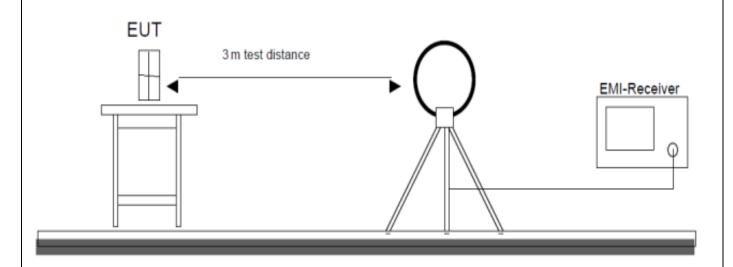


Figure 1: Frequency Range 9 kHz- 30 MHz

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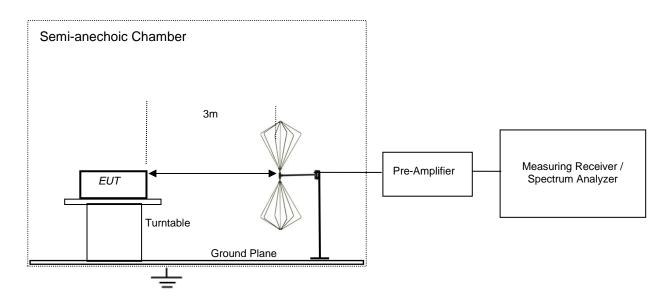


Figure 2: Frequency range 30 MHz to 200 MHz

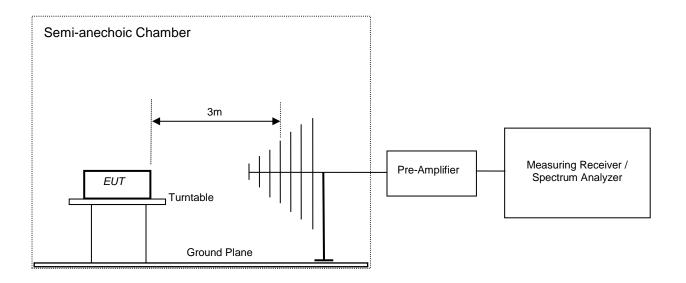


Figure 3: Frequency Range 200 MHz - 1 GHz

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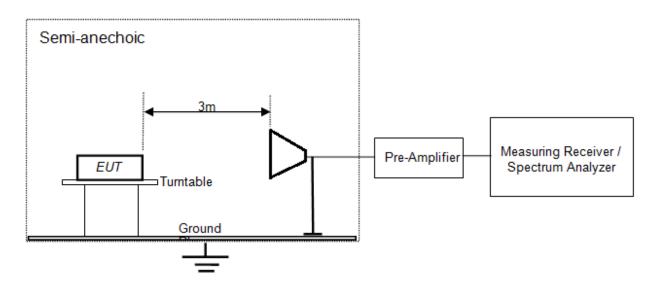


Figure 4: Frequency Range above 1 GHz

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6 TEST RESULTS

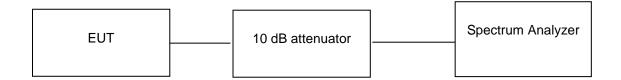
6.1 Maximum conducted Output Power

Result Pass

Test Specification FCC part 15 Subpart C Section 15.247 (b) (3)

Measurement Bandwidth 1 MHz
Detector Average

Requirement ≤ 1 watt (30 dBm)



Test results:

Note: Measurement was made as per section 9.2.2.1 (a), 9.2.2.2 in KDB 558074 D01 DTS Meas Guidance v04.

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

Wi-Fi - Path A / ANT1 / J7

Table 6: 802.11 b Path A

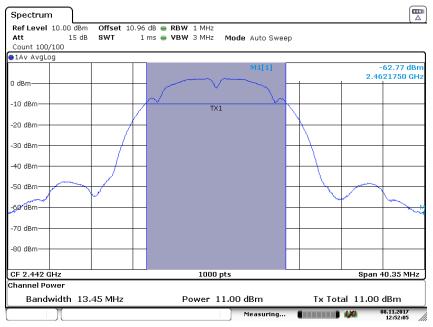
Modulation Type	Channel Frequency (MHz)	Average power (dBm)	Average power (mW)
1 Mbps	2442	11	12.58
11 Mbps	2462	10.83	12.10

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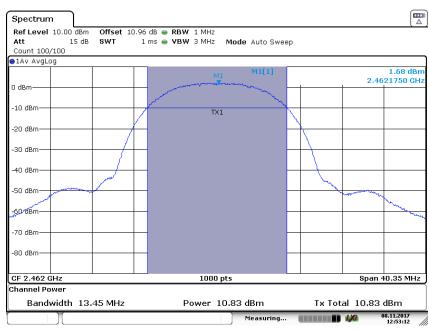


Test Graph 1: 1 Mbps channel 2442 MHz Path A power



Date: 8 NO V 2017 12:52:05

Test Graph 2: 11 Mbps channel 2462 MHz Path A power



Date: 8 NO V 2017 12:53:12

Test Datum / Ausstellungs Datum / Issued Date: 17-Nov-17 Test Date: 8-Nov-17

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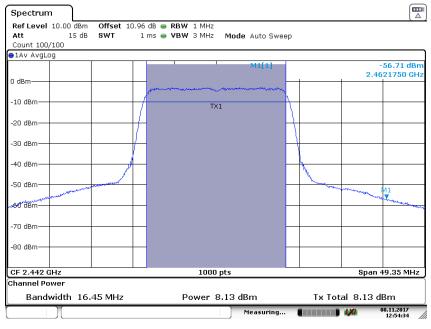


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Table 7: 802.11 g Path A

Modulation Type	Channel Frequency (MHz)	Average power (dBm)	Average power (mW)
6 Mbps	2442	8.13	6.50
24 Mbps	2462	8.31	6.77
54 Mbps	2462	8.31	6.77

Test Graph 3: 6 Mbps channel 2442 MHz Path A power

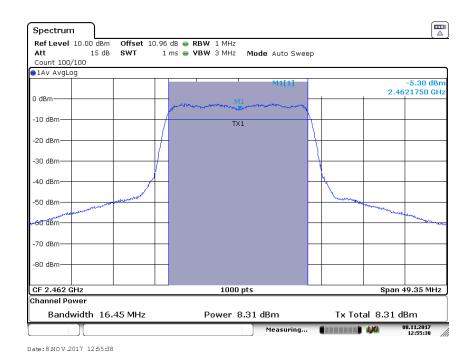


Date: 8 NO V 2017 12:54:35

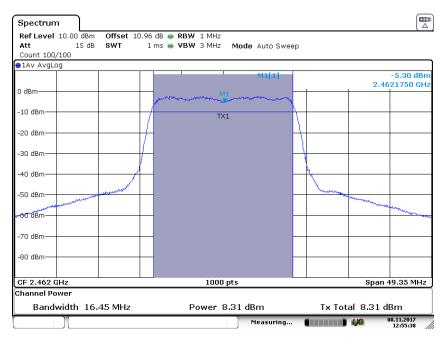
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Test Graph 4: 24 Mbps channel 2462 MHz Path A power



Test Graph 5: 54 Mbps channel 2462 MHz Path A power



Date: 8 NOV 2017 12:55:38

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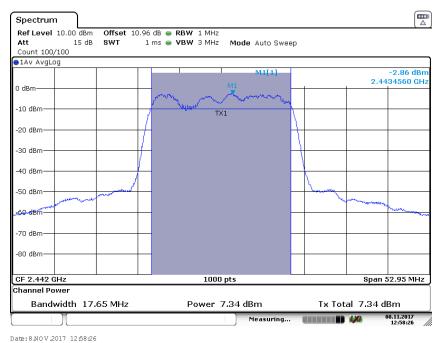


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Table 8: 802.11 n HT 20 Path A

Modulation Type	Channel Frequency (MHz)	Average power (dBm)	Average power (mW)
MCS0	2442	7.34	5.42
MCS7	2462	7.66	5.83
MCS15	2462	7.74	5.94

Test Graph 6: MCS0 channel 2442 MHz Path A power



Date: 0100 V 2017 12:00 20

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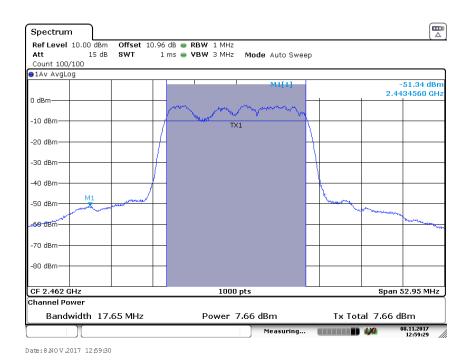
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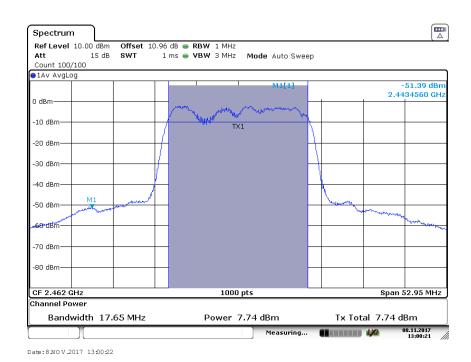


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Test Graph 8: MCS15 channel 2462 MHz Path A power



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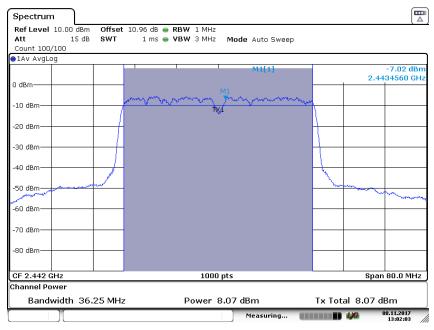


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Table 9: 802.11 n HT 40 Path A

Modulation Type	Channel Frequency (MHz)	Average power (dBm)	Average power (mW)
MCS0	2442	8.07	6.41
MCS7	2442	8.45	6.99
MCS15	2457	5.11	3.24

Test Graph 9: MCS0 HT 40 channel 2442 MHz Path A power



Date: 8 NO V 2017 13:02:02

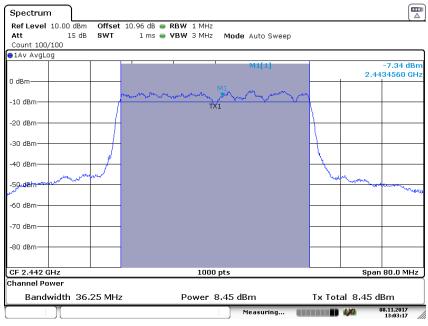
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Prüfbericht - Nr.:



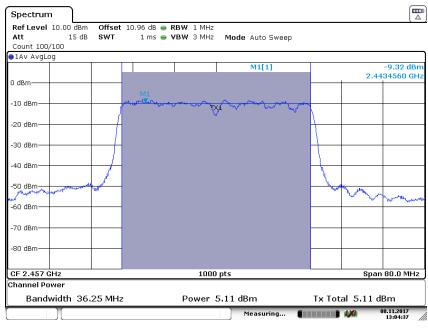


Test Graph 10: MCS7 HT 40 channel 2442 MHz Path A Power



Date: 8 NO V 2017 13:03:18

Test Graph 11: MCS15 HT40 channel 2457 MHz Path A Power



Date: 8 NOV 2017 13:04:36

Test Datum / Ausstellungs Datum / Issued Date: 17-Nov-17 Test Date: 8-Nov-17

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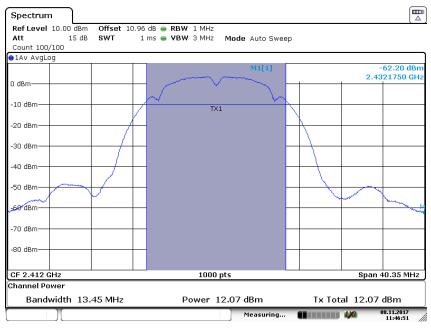
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Wi-Fi - Path B / ANT2 / J8

Table 10: 802.11 b Path B

Modulation Type	Channel Frequency (MHz)	Average power (dBm)	Average power (mW)
1 Mbpo	2412	12.07	16.10
1 Mbps	2442	11.63	14.55
11 Mbps	2462	10.68	11.69

Test Graph 12: 1 Mbps channel 2412 MHz Path B power



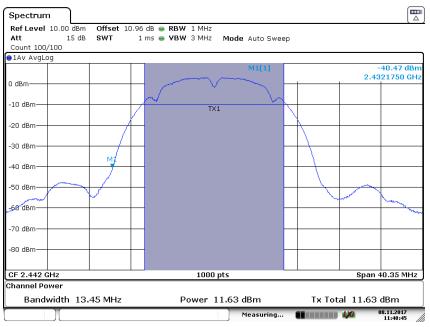
Date: 8 NO V 2017 11:46:51

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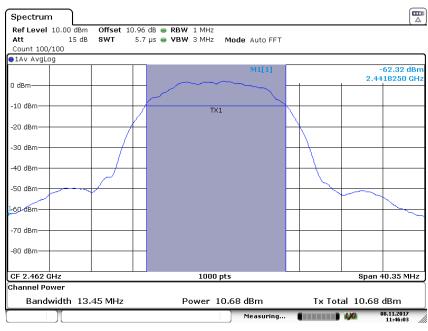


Test Graph 13: 1 Mbps Channel 2442 MHz Path B power



Date: 8 NO V 2017 11:48:45

Test Graph 14: 11 Mbps channel 2462 MHz Path B power



Date: 8 NOV 2017 11:46:04

Test Datum / Ausstellungs Datum / Issued Date: 17-Nov-17 Test Date: 8-Nov-17

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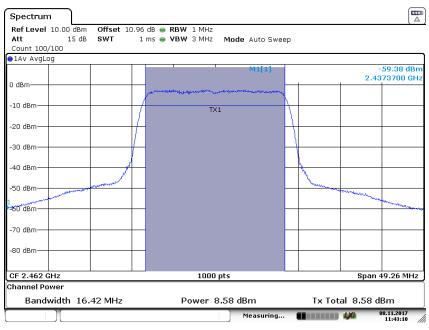


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Table 11: 802.11 g Path B

Modulation Type	Channel Frequency (MHz)	Average power (dBm)	Average power (mW)
6 Mbps	2462	8.58	7.21
24 Mbps	2462	8.75	7.49
54 Mbps	2462	8.69	7.39

Test Graph 15: 6 Mbps channel 2462 MHz Path B power



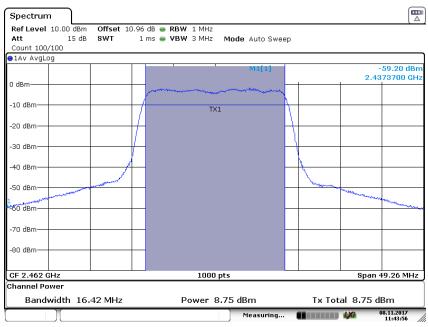
Date: 8 NO V 2017 11:43:10

Products



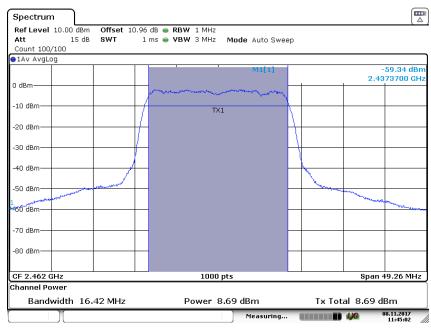
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Date: 8 NO V 2017 11:43:56

Test Graph 17: 54 Mbps channel 2462 MHz Path B power



Date: 8 NO V 2017 11:45:02

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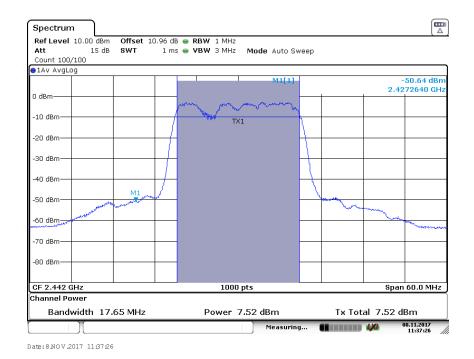


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Table 12: 802.11 n HT 20 Path B

Modulation Type	Channel Frequency (MHz)	Average power (dBm)	Average power (mW)
MCS0	2442	7.52	5.64
MCS7	2442	7.53	5.64
MCS15	2442	7.74	5.94

Test Graph 18: MCS0 channel 2442 MHz Path B power



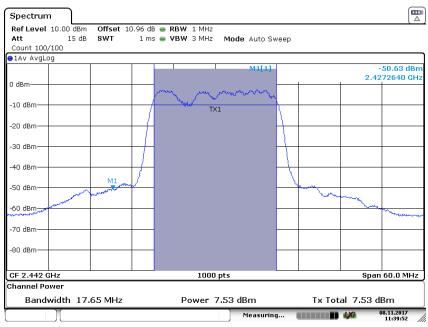
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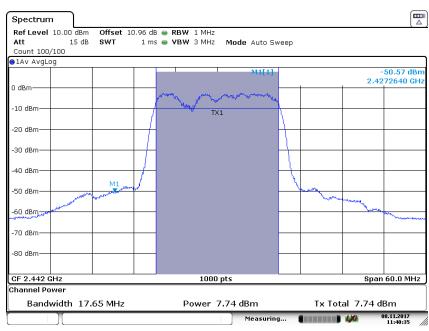
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Test Graph 19: MCS7 channel 2442 MHz Path B power



Date: 8 NO V 2017 11:39:53

Test Graph 20: MCS15 channel 2442 MHz Path B power



Date: 8 NO V 2017 11:40:35

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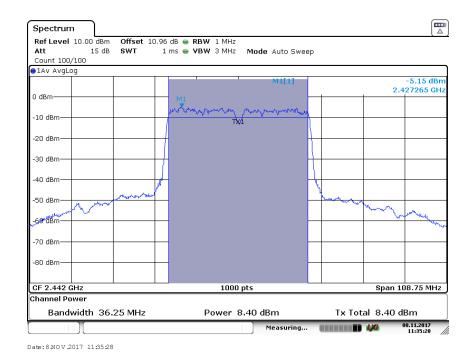


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Table 13: 802.11 n HT 40 Path B

Modulation Type	Channel Frequency (MHz)	Average power (dBm)	Average power (mW)
MCS0	2442	8.40	6.91
MCS7	2442	8.98	7.90
MCS15	2442	8.85	7.67

Test Graph 21: MCS0 HT 40 channel 2442 MHz Path B power

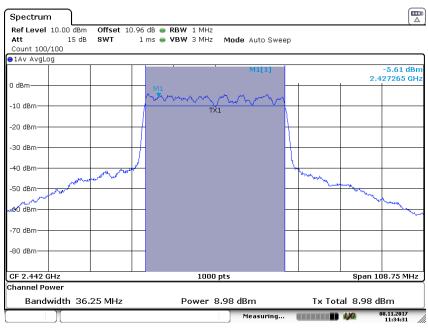


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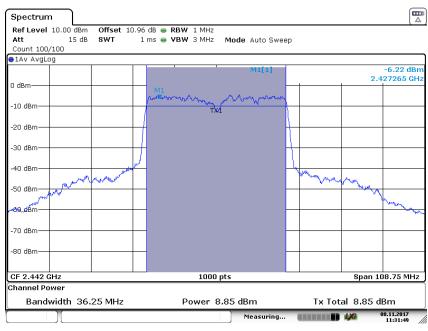


Test Graph 22: MCS7 HT 40 channel 2442 MHz Path B Power



Date: 8 NO V 2017 11:34:31

Test Graph 23: MCS15 HT40 channel 2442 MHz Path B Power



Date: 8 NOV 2017 11:31:48

Test Datum / Ausstellungs Datum / Issued Date: 17-Nov-17 Test Date: 8-Nov-17

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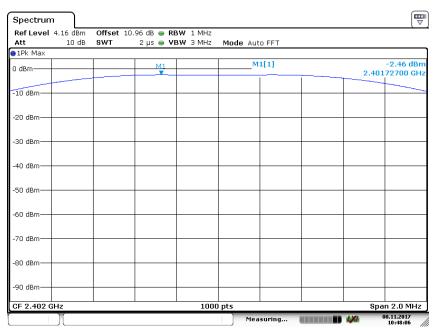
BT LE - PATH B / ANT2/ J7

Note: Measurement was made as per section 9.1 in KDB 558074 D01 DTS Meas Guidance v04

Table 14: BLE Power

Modulation Type	Channel Frequency (MHz)	Peak power (dBm)	Limit (dBm)
	2402	-2.46	30
1 Mbps	2440	-2.45	30
	2480	-2.68	30

Test Graph 24: BLE channel 2402 MHz power



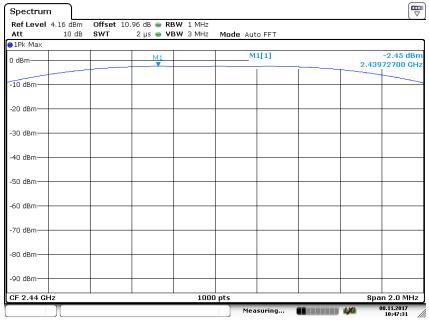
Date: 8 NO V 2017 10:48:06

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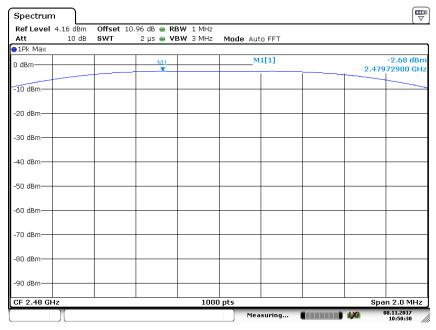
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Test Graph 25: BLE channel 2440 MHz power



Date: 8 NO V 2017 10:47:31

Test Graph 26: BLE channel 2480 MHz power



Date: 8 NO V 2017 10:50:31

Test Datum / Ausstellungs Datum / Issued Date: 17-Nov-17 Test Date: 8-Nov-17

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6.2 Restricted bands of Emissions & Restricted Bands of Operation 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 15: 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 dB μ V/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 quasipeak 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 Interna Backup Battery

Environmental conditions:

Temperature: +25.9 °C RH: 62.46 %

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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 16: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 17: 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		17.56	39.08	-21.52
46.24		17.81	39.08	-21.27
70.12		15.74	39.08	-23.34
92.49	Vertical	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		20.13	39.08	-18.95
84.42		21.87	39.08	-17.21
96.30	Horizontal	20.44	43.52	-23.08
136.47		22.74	43.52	-20.78
192.01		21.82	43.52	-21.70

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Table 18: Transmitter test results for the frequency 30 MHz - 200 MHz for External Battery

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

Table 19: Transmitter test results for the frequency 200 MHz - 1 GHz for Internal Battery

Frequency (MHz)	Polarization	Field Strength (dB _µ V/m m)	Limit (dBμV/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

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Table 20: 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.

Wi-Fi

Table 21: 1 Mbps_ Internal Antenna

Channel Frequency(MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	2390(Pk)	46.90	74.00	-27.10	
	Vertical	2390(Av)	33.29	54.00	-20.71
		2412(Pk)	95.39	-	*
2412.00		2412(Av)	93.41	-	*
2412.00		4824(Pk)	50.83	74.00	-23.17
		4824(Av)	38.98	54.00	-15.02
		7236(Pk)	57.86	74.00	-16.14
		7236(Av)	44.28	54.00	-9.72

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	T	T	T	T	_
		2390(Pk)	48.36	74.00	-25.64
		2390(Av)	29.22	54.00	-24.78
		2412(Pk)	96.61	-	*
2412	Horizontal	2412(Av)	95.53	-	*
2412	Horizoniai	4824(Pk)	50.39	74.00	-23.61
		4824(Av)	38.99	54.00	-15.01
		7236(Pk)	57.58	74.00	-16.42
		7236(Av)	44.26	54.00	-9.74
		2442(Pk)	96.27	-	*
		2442(Av)	94.62	-	*
	Montinal	4884(Pk)	51.34	74.00	-22.66
	Vertical	4884(Av)	42.53	54.00	-11.47
		7326(Pk)	58.24	74.00	-15.76
0440.00		7326(Av)	44.64	54.00	-9.36
2442.00		2442(Pk)	98.04	-	*
		2442(Av)	95.30	-	*
	l la via a utal	4884(Pk)	51.53	74.00	-22.47
	Horizontal	4884(Av)	44.03	54.00	-9.97
		7326(Pk)	58.59	74.00	-15.41
		7326(Av)	44.58	54.00	-9.42
		2462(Pk)	97.80	-	*
	Vertical	2462(Pk)	95.01	-	*
		2483.5(Pk)	45.70	74.00	-28.30
0.400.00		2483.5(Av)	30.70	54.00	-23.30
2462.00 Vertical		4924(Pk)	51.69	74.00	-22.31
		4924(Av)	43.30	54.00	-10.70
		7386(Pk)	58.55	74.00	-15.45
		7386(Av)	44.99	54.00	-9.01

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		2462(Pk)	95.20	-	*
		2462(Pk)	92.39	-	*
		2483.5(Pk)	41.78	74.00	-32.22
2462	Havinantal	2483.5(Av)	27.73	54.00	-26.27
2462 Ho	Horizontal	4924(Pk)	52.82	74.00	-21.18
		4924(Av)	46.93	54.00	-7.07
		7386(Pk)	58.64	74.00	-15.36
		7386(Av)	45.01	54.00	-8.99

Table 22: 11 Mbps_Internal Antenna

Channel Frequency(MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
		2390(Pk)	47.70	74.00	-26.30
		2390(Av)	30.00	54.00	-24.00
		2412(Pk)	100.33	-	*
	Vartical	2412(Av)	92.83	-	*
	Vertical	4824(Pk)	50.80	74.00	-23.20
		4824(Av)	38.07	54.00	-15.93
		7236(Pk)	58.43	74.00	-15.57
2412.00		7236(Av)	44.28	54.00	-9.72
2412.00	Horizontal	2390(Pk)	48.08	74.00	-25.92
		2390(Av)	29.03	54.00	-24.97
		2412(Pk)	101.62	-	*
		2412(Av)	94.26	-	*
		4824(Pk)	50.77	74.00	-23.23
		4824(Av)	38.20	54.00	-15.80
		7236(Pk)	57.68	74.00	-16.32
		7236(Av)	44.20	54.00	-9.80

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		2442(Pk)	101.43	-	*
		2442(Av)	93.99	-	*
	Vertical	4884(Pk)	51.28	74.00	-22.72
	Vertical	4884(Av)	38.73	54.00	-15.27
		7326(Pk)	58.48	74.00	-15.52
2442.00		7326(Av)	44.64	54.00	-9.36
2442.00		2442(Pk)	99.04	-	*
		2442(Av)	91.86	-	*
	Horizontal	4884(Pk)	51.56	74.00	-22.44
	Horizoniai	4884(Av)	39.04	54.00	-14.96
		7326(Pk)	58.46	74.00	-15.54
		7326(Av)	44.62	54.00	-9.38
		2462(Pk)	102.50	-	*
		2462(Pk)	95.06	-	*
		2483.5(Pk)	47.21	74.00	-26.79
	Vertical	2483.5(Av)	29.67	54.00	-24.33
	vertical	4924(Pk)	51.22	74.00	-22.78
		4924(Av)	38.82	54.00	-15.18
		7386(Pk)	51.22	74.00	-22.78
2462.00		7386(Av)	38.82	54.00	-15.18
2462.00 Hor		2462(Pk)	101.75	-	*
		2462(Pk)	94.37	-	*
		2483.5(Pk)	46.62	74.00	-27.38
	Horizontal	2483.5(Av)	28.35	54.00	-25.65
	HUHZUHIAI	4924(Pk)	52.16	74.00	-21.84
		4924(Av)	40.29	54.00	-13.71
		7386(Pk)	52.16	74.00	-21.84
		7386(Av)	40.29	54.00	-13.71

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Table 23: 6 Mbps_ Internal Antenna

Channel Frequency(MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dB _µ V/m)	Limit (dBμV/m)	Margin (dB)
		2390(Pk)	50.31	74.00	-23.69
		2390(Av)	38.14	54.00	-15.86
		2412(Pk)	98.81	-	*
	Montinal	2412(Av)	91.03	-	*
	Vertical	4824(Pk)	50.10	74.00	-23.90
		4824(Av)	36.76	54.00	-17.24
		7236(Pk)	57.98	74.00	-16.02
0.440.00		7236(Av)	43.54	54.00	-10.46
2412.00		2390(Pk)	48.71	74.00	-25.29
		2390(Av)	36.61	54.00	-17.39
	Horizontal	2412(Pk)	96.94	-	*
		2412(Av)	89.15	-	*
		4824(Pk)	51.39	74.00	-22.61
		4824(Av)	36.71	54.00	-17.29
		7236(Pk)	58.24	74.00	-15.76
		7236(Av)	44.64	54.00	-9.36
		2442(Pk)	100.24	-	*
		2442(Av)	91.88	-	*
	Montinal	4884(Pk)	51.03	74.00	-22.97
	Vertical	4884(Av)	37.38	54.00	-16.62
		7326(Pk)	57.87	74.00	-16.13
2442.00		7326(Av)	44.27	54.00	-9.73
		2442(Pk)	97.47	-	*
		2442(Av)	89.59	-	*
		4884(Pk)	50.81	74.00	-23.19
	Horizontal	4884(Av)	36.89	54.00	-17.11
		7326(Pk)	57.84	74.00	-16.16
		7326(Av)	43.98	54.00	-10.02

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					•
		2462(Pk)	101.19	-	*
		2462(Pk)	92.45	-	*
		2483.5(Pk)	52.02	74.00	-21.98
	Vertical	2483.5(Av)	38.94	54.00	-15.06
	vertical	4924(Pk)	51.28	74.00	-22.72
		4924(Av)	37.69	54.00	-16.31
		7386(Pk)	57.87	74.00	-16.13
2462.00		7386(Av)	43.79	54.00	-10.21
2402.00		2462(Pk)	97.41	-	*
		2462(Pk)	89.59	-	*
		2483.5(Pk)	49.48	74.00	-24.52
	Horizontal	2483.5(Av)	37.76	54.00	-16.24
	וחטווצטווומו	4924(Pk)	51.06	74.00	-22.94
		4924(Av)	37.34	54.00	-16.66
		7386(Pk)	58.31	74.00	-15.69
		7386(Av)	44.29	54.00	-9.71

Table 24: 24 Mbps_ Internal Antenna

Channel Frequency(MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
		2390(Pk)	50.79	74.00	-23.21
		2390(Av)	38.45	54.00	-15.55
		2412(Pk)	101.79	-	*
2412.00	Vertical	2412(Av)	92.48	-	*
2412.00		4824(Pk)	50.75	74.00	-23.25
		4824(Av)	37.04	54.00	-16.96
		7236(Pk)	58.63	74.00	-15.37
		7236(Av)	43.82	54.00	-10.18

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	1	T		T	
		2390(Pk)	49.54	74.00	-24.46
		2390(Av)	37.18	54.00	-16.82
		2412(Pk)	99.67	-	*
0440	Horizontal	2412(Av)	90.45	-	*
2412	Horizoniai	4824(Pk)	52.04	74.00	-21.96
		4824(Av)	36.99	54.00	-17.01
		7236(Pk)	58.89	74.00	-15.11
		7236(Av)	44.92	54.00	-9.08
		2442(Pk)	101.02	-	*
		2442(Av)	91.40	-	*
	Martinal	4884(Pk)	51.81	74.00	-22.19
	Vertical	4884(Av)	36.90	54.00	-17.10
		7326(Pk)	58.65	74.00	-15.35
0.4.40.00		7326(Av)	43.79	54.00	-10.21
2442.00		2442(Pk)	98.25	-	*
		2442(Av)	89.11	-	*
	l la via a utal	4884(Pk)	51.59	74.00	-22.41
	Horizontal	4884(Av)	36.41	54.00	-17.59
		7326(Pk)	58.62	74.00	-15.38
		7326(Av)	43.50	54.00	-10.50
		2462(Pk)	101.49	-	*
2462.00		2462(Pk)	92.79	-	*
		2483.5(Pk)	52.30	74.00	-21.70
	March	2483.5(Av)	38.18	54.00	-15.82
	Vertical	4924(Pk)	51.86	74.00	-22.14
		4924(Av)	38.52	54.00	-15.48
		7386(Pk)	58.45	74.00	-15.55
		7386(Av)	44.62	54.00	-9.38

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		2462(Pk)	98.59	-	*
		2462(Pk)	89.58	-	*
		2483.5(Pk)	48.89	74.00	-25.11
2462	2462 Horizontal	2483.5(Av)	37.64	54.00	-16.36
2402		4924(Pk)	51.64	74.00	-22.36
		4924(Av)	38.17	54.00	-15.83
		7386(Pk)	58.89	74.00	-15.11
		7386(Av)	45.12	54.00	-8.88

Table 25: 54 Mbps_ Internal Antenna

Channel Frequency(MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
		2390(Pk)	53.26	74.00	-20.74
		2390(Av)	40.61	54.00	-13.39
		2412(Pk)	101.94	-	*
	No die al	2412(Av)	93.60	-	*
	Vertical	4824(Pk)	51.51	74.00	-22.49
		4824(Av)	37.71	54.00	-16.29
		7236(Pk)	59.39	74.00	-14.61
0440.00		7236(Av)	44.49	54.00	-9.51
2412.00	Horizontal -	2390(Pk)	50.96	74.00	-23.04
		2390(Av)	38.10	54.00	-15.90
		2412(Pk)	98.58	-	*
		2412(Av)	90.69	-	*
		4824(Pk)	52.80	74.00	-21.20
		4824(Av)	37.66	54.00	-16.34
		7236(Pk)	59.65	74.00	-14.35
		7236(Av)	45.59	54.00	-8.41

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	_ _		,		
		2442(Pk)	101.69	-	*
		2442(Av)	91.78	-	*
	Vertical	4884(Pk)	52.48	74.00	-21.52
	Vertical	4884(Av)	37.28	54.00	-16.72
		7326(Pk)	59.32	74.00	-14.68
2442.00		7326(Av)	44.17	54.00	-9.83
2442.00		2442(Pk)	98.92	-	*
		2442(Av)	89.49	-	*
	Horizontal	4884(Pk)	52.26	74.00	-21.74
	Honzontal	4884(Av)	36.79	54.00	-17.21
		7326(Pk)	59.29	74.00	-14.71
		7326(Av)	43.88	54.00	-10.12
		2462(Pk)	101.70	-	*
		2462(Pk)	93.47	-	*
		2483.5(Pk)	52.98	74.00	-21.02
	Vertical	2483.5(Av)	39.68	54.00	-14.32
	Vertical	4924(Pk)	51.77	74.00	-22.23
		4924(Av)	38.61	54.00	-15.39
		7386(Pk)	58.36	74.00	-15.64
2462.00		7386(Av)	44.71	54.00	-9.29
2462.00		2462(Pk)	98.69	-	*
		2462(Pk)	89.95	-	*
		2483.5(Pk)	50.28	74.00	-23.72
	Horizontol	2483.5(Av)	37.24	54.00	-16.76
	Horizontal	4924(Pk)	51.55	74.00	-22.45
		4924(Av)	38.26	54.00	-15.74
		7386(Pk)	58.80	74.00	-15.20
		7386(Av)	45.21	54.00	-8.79

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Table 26: MCS0 HT20_Internal Antenna

Channel Frequency(MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
		2390(Pk)	51.90	74.00	-22.10
		2390(Av)	39.46	54.00	-14.54
	Mantinal	2412(Pk)	97.33	-	*
	Vertical	2412(Av)	90.00	-	*
		4824(Pk)	50.59	74.00	-23.41
0.440.00		4824(Av)	36.72	54.00	-17.28
2412.00		2390(Pk)	51.48	74.00	-22.52
		2390(Av)	38.85	54.00	-15.15
		2412(Pk)	97.28	-	*
F	Horizontal	2412(Av)	90.15	-	*
		4824(Pk)	50.40	74.00	-23.60
		4824(Av)	36.73	54.00	-17.27
		2442(Pk)	97.50	-	*
	Mantinal	2442(Av)	90.28	-	*
	Vertical	4884(Pk)	51.59	74.00	-22.41
2442.00		4884(Av)	39.70	54.00	-14.30
2442.00		2442(Pk)	96.94	-	*
	l la vi=a vatal	2442(Av)	89.71	-	*
	Horizontal	4884(Pk)	51.14	74.00	-22.86
		4884(Av)	36.04	54.00	-17.96
		2462(Pk)	97.96	-	*
		2462(Pk)	91.08	-	*
0.460.00	\/o#t:==!	2483.5(Pk)	51.97	74.00	-22.03
2462.00	Vertical	2483.5(Av)	39.21	54.00	-14.79
		4924(Pk)	51.34	74.00	-22.66
		4924(Av)	38.06	54.00	-15.94

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		2462(Pk)	97.87	-	*
2462.00 Horizon		2462(Pk)	90.74	-	*
	Harizantal	2483.5(Pk)	50.02	74.00	-23.98
	Horizontal	2483.5(Av)	37.70	54.00	-16.30
		4924(Pk)	50.43	74.00	-23.57
		4924(Av)	37.37	54.00	-16.63

Table 27: MCS7 HT20_ Internal Anenna

Channel Frequency(MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
		2390(Pk)	52.33	74.00	-21.67
		2390(Av)	39.50	54.00	-14.50
	Vartical	2412(Pk)	97.71	-	*
	Vertical	2412(Av)	90.28	-	*
		4824(Pk)	51.34	74.00	-22.66
2442.00		4824(Av)	37.92	54.00	-16.08
2412.00		2390(Pk)	51.22	74.00	-22.78
	Horizontal	2390(Av)	38.82	54.00	-15.18
		2412(Pk)	97.03	-	*
		2412(Av)	89.87	-	*
		4824(Pk)	51.34	74.00	-22.66
		4824(Av)	37.92	54.00	-16.08
		2442(Pk)	97.25	-	*
	Vertical	2442(Av)	89.96	-	*
	verticai	4884(Pk)	51.02	74.00	-22.98
2442.00		4884(Av)	37.39	54.00	-16.61
2442.00		2442(Pk)	96.86	_	_
	Horizontal	2442(Av)	89.60	_	_
	nonzontai	4884(Pk)	50.11	74.00	-23.89
		4884(Av)	36.70	54.00	-17.30

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		2462(Pk)	98.71	-	*
		2462(Ak)	91.35	-	*
	Martinal	2483.5(Pk)	52.29	74.00	-21.71
	Vertical	2483.5(Av)	39.64	54.00	-14.36
		4924(Pk)	51.59	74.00	-22.41
0.400.00		4924(Av)	38.63	54.00	-15.37
2462.00	Horizontal	2462(Pk)	97.56	-	*
		2462(Pk)	90.48	-	*
		2483.5(Pk)	52.21	74.00	-21.79
		2483.5(Av)	38.73	54.00	-15.27
		4924(Pk)	50.68	74.00	-23.32
		4924(Av)	37.94	54.00	-16.06

Table 28: MCS15 HT20_Internal Antenna

Channel Frequency(MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
		2390(Pk)	49.61	74.00	-24.39
		2390(Av)	39.52	54.00	-14.48
	Vartical	2412(Pk)	97.08	-	*
	Vertical	2412(Av)	89.83	-	*
		4824(Pk)	50.09	74.00	-24.39
2412.00		4824(Av)	36.73	54.00	-14.48
2412.00		2390(Pk)	49.92	74.00	-24.08
	Horizontal	2390(Av)	38.79	54.00	-15.21
		2412(Pk)	97.14	-	*
		2412(Av)	90.23	-	*
		4824(Pk)	51.66	74.00	-22.34
		4824(Av)	36.71	54.00	-17.29

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		2442(Pk)	97.40	-	*
	Martinal	2442(Av)	90.09	-	*
	Vertical	4884(Pk)	51.68	74.00	-22.32
2442.00		4884(Av)	37.36	54.00	-16.64
2442.00		2442(Pk)	96.75	-	*
	Harizantal	2442(Av)	89.42	-	*
	Horizontal	4884(Pk)	51.70	74.00	-22.30
		4884(Av)	37.78	54.00	-16.22
	Vertical	2462(Pk)	98.66	-	*
		2462(Pk)	91.36	-	*
		2483.5(Pk)	51.89	74.00	-22.11
		2483.5(Av)	39.48	54.00	-14.52
		4924(Pk)	51.11	74.00	-22.89
2402.00		4924(Av)	37.81	54.00	-16.19
2462.00		2462(Pk)	97.83	-	*
		2462(Pk)	90.10	-	*
	Harizantal	2483.5(Pk)	50.40	74.00	-23.60
	Horizontal	2483.5(Av)	38.59	54.00	-15.41
		4924(Pk)	50.77	74.00	-23.23
		4924(Av)	37.42	54.00	-16.58

Table 29: MCS0 HT40_Internal Antenna

Channel Frequency(MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
		2390(Pk)	54.70	74.00	-19.30
	Vertical	2390(Av)	39.72	54.00	-14.28
2422.00		2422(Pk)	92.10	-	*
2422.00		2422(Av)	83.80	-	*
		4844(Pk)	51.14	74.00	-22.86
		4844(Av)	37.27	54.00	-16.73

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		2390(Pk)	54.68	74.00	-19.32
		2390(Av)	40.31	54.00	-13.69
0.400.00	Horizontal	2422(Pk)	93.02	-	*
2422.00	Horizontai	2422(Av)	85.17	-	*
		4844(Pk)	50.87	74.00	-23.13
		4844(Av)	37.15	54.00	-16.85
		2437(Pk)	95.54	-	*
		2437(Av)	87.17	-	*
	Vertical	4874(Pk)	51.23	74.00	-22.77
0.407.00		4874(Av)	38.23	54.00	-15.77
2437.00	Horizontal	2437(Pk)	95.49	-	*
		2437(Av)	87.98	-	*
		4874(Pk)	51.38	74.00	-22.62
		4874(Av)	37.69	54.00	-16.31
		2457(Pk)	93.90	-	*
		2457(Av)	85.87	-	*
		2483.5(Pk)	59.32	74.00	-14.68
	Vertical	2483.5(Av)	43.71	54.00	-10.29
		4914(Pk)	50.17	74.00	-23.83
0.457.00		4914(Av)	37.31	54.00	-16.69
2457.00		2457(Pk)	93.33	-	*
		2457(Av)	86.25	-	*
	Had out	2483.5(Pk)	57.04	74.00	-16.96
	Horizontal	2483.5(Av)	41.69	54.00	-12.31
		4914(Pk)	51.02	74.00	-22.98
		4914(Av)	37.66	54.00	-16.34
	1	1			•

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Table 30: MCS7 HT40_Internal Antenna

Channel Frequency(MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
		2390(Pk)	59.88	74.00	-14.12
		2390(Av)	45.96	54.00	-8.04
	Vartical	2422(Pk)	93.82	-	*
	Vertical	2422(Av)	85.79	-	*
		4844(Pk)	50.95	74.00	-23.05
2422.00		4844(Av)	36.72	54.00	-17.28
2422.00		2390(Pk)	57.65	74.00	-16.35
		2390(Av)	44.21	54.00	-9.79
	Harizontal	2422(Pk)	93.79	-	*
	Horizontal	2422(Av)	87.10	-	*
		4844(Pk)	50.98	74.00	-23.02
		4844(Av)	36.67	54.00	-17.33
	Vertical	2437(Pk)	98.04	-	*
		2437(Av)	89.66	-	*
	verticai	4874(Pk)	50.97	74.00	-23.03
2437.00		4874(Av)	36.92	54.00	-17.08
2437.00		2437(Pk)	96.82	-	*
	Horizontal	2437(Av)	90.58	-	*
	Honzontai	4874(Pk)	51.38	74.00	-22.62
		4874(Av)	37.24	54.00	-16.76
		2457(Pk)	95.50	-	*
		2457(Av)	87.58	-	*
2457.00	Vertical	2483.5(Pk)	64.03	74.00	-9.97
2 4 37.00	verillai	2483.5(Av)	44.42	54.00	-9.58
		4914(Pk)	50.99	74.00	-23.01
		4914(Av)	37.13	54.00	-16.87

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2457.00 Horizontal	2457(Pk)	94.41	-	*	
		2457(Av)	87.49	-	*
	Harizontal	2483.5(Pk)	60.31	74.00	-13.69
	Honzoniai	2483.5(Av)	42.59	54.00	-11.41
		4914(Pk)	51.03	74.00	-22.97
		4914(Av)	37.13	54.00	-16.87

Table 31: MCS 15 HT40_Internal Antenna

Channel Frequency(MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dB _µ V/m)	Limit (dB _µ V/m)	Margin (dB)
		2390(Pk)	54.88	74.00	-19.12
		2390(Av)	43.14	54.00	-10.86
	Martinal	2422(Pk)	90.85	-	*
	Vertical	2422(Av)	83.32	-	*
		4844(Pk)	50.28	74.00	-23.72
2422.00		4844(Av)	36.55	54.00	-17.45
2422.00		2390(Pk)	55.13	74.00	-18.87
	Horizontal	2390(Av)	42.82	54.00	-11.18
		2422(Pk)	91.19	-	*
		2422(Av)	83.57	-	*
		4844(Pk)	51.21	74.00	-22.79
		4844(Av)	36.58	54.00	-17.42
		2437(Pk)	94.85	-	*
	Vertical	2437(Av)	87.40	-	*
	vertical	4874(Pk)	50.57	74.00	-23.43
2427.00		4874(Av)	37.26	54.00	-16.74
2437.00		2437(Pk)	95.20	-	*
	Horizontal	2437(Av)	87.70	-	*
	Honzonial	4874(Pk)	51.20	74.00	-22.80
		4874(Av)	37.05	54.00	-16.95

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		2457(Pk)	91.79	-	*
		2457(Av)	84.32	-	*
	Vertical	2483.5(Pk)	58.16	74.00	-15.84
	vertical	2483.5(Av)	42.97	54.00	-11.03
		4914(Pk)	50.47	74.00	-23.53
2457.00		4914(Av)	37.06	54.00	-16.94
2457.00		2457(Pk)	92.46	-	*
		2457(Av)	84.78	•	*
	Horizontal	2483.5(Pk)	55.00	74.00	-19.00
	Horizontai	2483.5(Av)	41.07	54.00	-12.93
		4914(Pk)	50.87	74.00	-23.13
		4914(Av)	37.10	54.00	-16.90

Table 32: 1 Mbps_ External Antenna

Channel Frequency (MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
		2390(Pk)	53.02	74.00	-20.98
		2390(Av)	37.30	54.00	-16.70
		2412(Pk)	103.18	-	*
	\/articol	2412(Av)	100.66	(dBμV/m) 74.00	*
	Vertical	4824(Pk)	50.61	74.00	-23.39
		4824(Av)	38.34	54.00	-15.66
		7236(Pk)	58.00	74.00	-16.00
0440.00		7236(Av)	44.23	54.00	-9.77
2412.00		2390(Pk)	52.08	74.00	-21.92
		2390(Av)	36.12	(dBμV/m) 74.00 54.00 - - 74.00 54.00 74.00 54.00 74.00 54.00 - - 74.00 54.00 54.00 54.00	-17.88
		2412(Pk)	96.75	-	*
	l la sima antal	2412(Av)	95.17	-	*
	Horizontal	4824(Pk)	50.42	74.00	-23.58
		4824(Av)	41.27	54.00	-12.73
		7236(Pk)	57.71	74.00	-16.29
		7236(Av)	44.24	54.00	-9.76

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			T	T	T
		2442(Pk)	103.77	-	*
		2442(Av)	100.96	- 74.00 54.00 74.00 54.00 - 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00	*
	Vertical	4884(Pk)	50.58	74.00	-23.42
	Vertical	4884(Av)	41.18	54.00	-12.82
		7326(Pk)	58.47	74.00	-15.53
2442.00		7326(Av)	44.01	54.00	-9.99
2442.00		2442(Pk)	96.44	-	*
		2442(Av)	93.68	-	*
	Harizantal	4884(Pk)	52.71	74.00	-21.29
	Попиона	4884(Av)	46.01	54.00	-7.99
		7326(Pk)	58.59	74.00	-15.41
		7326(Av)	44.89	54.00	-9.11
		2462(Pk)	103.03	54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00	*
		2462(Pk)	100.27		*
		2483.5(Pk)	53.44		-20.56
	Vertical	2483.5(Av)	37.43	54.00	-16.57
	vertical	4924(Pk)	50.96	74.00	-23.04
		4924(Av)	40.47	54.00	-13.53
		7386(Pk)	58.95	74.00	-15.05
2402.00		7386(Av)	45.18	54.00	-8.82
2462.00		2462(Pk)	99.29	-	*
		2462(Pk)	96.57	-	*
		2483.5(Pk)	49.77	74.00	-24.23
	l lavi-antal	2483.5(Av)	36.54	54.00	-17.46
	Horizontai	4924(Pk)	53.27	74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 74.00	-20.73
		4924(Av)	45.96		-8.04
		7386(Pk)	58.78		-15.22
	Vertical	7386(Av)	45.17	54.00	-8.83

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Table 33: 6 Mbps_Extrenal Antenna

Channel Frequency (MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBµV/m)	Limit (dBμV/m)	Margin (dB)
		2390(Pk)	56.14	(dBμV/m) 74.00 54.00 - - 74.00 54.00 74.00 54.00 74.00 54.00 - - 74.00 54.00 74.00 54.00 74.00 54.00 - - 74.00 54.00 - 74.00 54.00 - 74.00 54.00 - 74.00 54.00 74.00 74.00 74.00	-17.86
		2390(Av)	41.24	54.00	-12.76
		2412(Pk)	equency (MHz) Field Strength (dBμV/m) Limit (dBμV/m) 390(Pk) 56.14 74.00 390(Av) 41.24 54.00 412(Pk) 105.00 - 412(Av) 96.76 - 824(Pk) 50.26 74.00 824(Av) 36.81 54.00 236(Pk) 57.82 74.00 236(Av) 44.74 54.00 390(Pk) 51.52 74.00 390(Av) 38.31 54.00 412(Pk) 100.14 - 412(Av) 92.11 - 824(Pk) 50.90 74.00 824(Av) 37.33 54.00 236(Pk) 57.82 74.00 236(Av) 44.74 54.00 442(Pk) 104.43 - 442(Pk) 96.91 - 884(Pk) 51.02 74.00 884(Pk) 58.91 74.00 326(Pk) 58.91 74.00 326(Pk) 99.61	*	
	Mantinal	2412(Av)		-	*
	Vertical	4824(Pk)	50.26	(dBµV/m) 74.00 54.00 - 74.00 54.00 74.00 54.00 74.00 54.00 - 74.00 54.00 74.00 54.00 74.00 54.00 - 74.00 54.00 - 74.00 54.00 74.00 74.00 74.00 74.00 74.00	-23.74
		4824(Av)	36.81		-17.19
		7236(Pk)	57.82	74.00	-16.18
2442.00		7236(Av)	44.74	54.00	-9.26
2412.00		2390(Pk)	51.52	74.00	-22.48
		2390(Av)	38.31	54.00	-15.69
		2412(Pk)	100.14	-	*
	Horizontal	2412(Av)	92.11	(dBµV/m) 74.00 54.00 - 74.00 54.00 74.00 54.00 74.00 54.00 - 74.00 54.00 74.00 54.00 74.00 54.00 - 74.00 54.00 - 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00	*
	Horizoniai	4824(Pk)	50.90	74.00	-23.10
		4824(Av)	37.33	(dBµV/m) 74.00 54.00 - 74.00 54.00 74.00 54.00 74.00 54.00 - - 74.00 54.00 74.00 54.00 - - 74.00 54.00 - - 74.00 54.00 - 74.00 54.00 74.00 54.00 74.00 74.00 54.00 74.00 74.00	-16.67
		7236(Pk)	57.82	74.00	-16.18
		7236(Av)	44.74	54.00	-9.26
		2442(Pk)	104.43	(dBµV/m) 74.00 54.00 - 74.00 54.00 74.00 54.00 74.00 54.00 - 74.00 54.00 74.00 54.00 74.00 54.00 - 74.00 54.00 - 74.00 54.00 74.00 54.00 74.00 74.00 54.00 74.00 74.00 74.00 74.00	*
		2442(Av)	96.91	-	*
	Vertical	4884(Pk)	51.02	74.00	-22.98
	Vertical -	4884(Av)	41.91	54.00	-12.09
		7326(Pk)	58.91	74.00	-15.09
2442.00		7326(Av)	44.74	54.00	-9.26
2442.00		2442(Pk)	99.61	-	*
		2442(Av)	91.25	-	*
	Horizontal	4884(Pk)	53.15	74.00	-20.85
	HUHZUNTAL	4884(Av)	46.74	54.00	-7.26
		7326(Pk)	59.03	74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00	-14.97
		7326(Av)	45.62	54.00	-8.38

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		2462(Pk)	105.00	-	*
		2462(Pk)	96.30	-	*
		2483.5(Pk)	54.56	74.00	-19.44
	Vertical	2483.5(Av)	41.17	54.00	-12.83
	vertical	4924(Pk)	162(Pk) 96.30 - 33.5(Pk) 54.56 74.00 33.5(Av) 41.17 54.00 224(Pk) 51.32 74.00 224(Av) 37.09 54.00 386(Pk) 57.84 74.00 386(Av) 44.78 54.00 362(Pk) 99.36 - 362(Pk) 91.36 - 33.5(Pk) 50.51 74.00 33.5(Av) 37.84 54.00 33.5(Av) 37.84 54.00 33.5(Av) 37.84 54.00 324(Pk) 51.03 74.00 324(Pk) 51.03 74.00 324(Av) 37.68 54.00	-22.68	
		4924(Av)		-16.91	
		7386(Pk)	57.84	74.00	-16.16
2462.00		7386(Av)	44.78	54.00	-9.22
2462.00		2462(Pk)	99.36	-	*
		2462(Pk)	91.36	-	*
		2483.5(Pk)	50.51	74.00	-23.49
	Horizontal	2483.5(Av)	37.84	54.00	-16.16
	Honzoniai	4924(Pk)	51.03	74.00	-22.97
		4924(Av)	37.68	54.00	-16.32
		7386(Pk)	57.87	74.00	-16.13
		7386(Av)	45.23	54.00	-8.77

Table 34: MCS0 HT20_External Antenna

Channel Frequency (MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
		2390(Pk)	55.18	74.00	-18.82
		2390(Av)	41.98	54.00	-12.02
2412.00	Vertical	2412(Pk)	104.17	-	*
2412.00	vertical	2412(Av)	97.30	-	*
		4824(Pk)	50.41	74.00	-23.59
		4824(Av)	36.71	54.00	-17.29

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		2390(Pk)	51.13	74.00	-22.87
	Horizontol	2390(Av)	39.01	54.00	-14.99
0440.00		2412(Pk)	99.37	-	*
2412.00	Horizontal	2412(Av)	91.92	-	*
		4824(Pk)	50.76	74.00	-23.24
		4824(Av)	37.45	54.00	-16.55
		2442(Pk)	104.31	-	*
	Va Carl	2442(Av)	97.67	-	*
	Vertical	4884(Pk)	51.23	74.00	-22.77
0440.00		4884(Av)	37.42	54.00	-16.58
2442.00		2442(Pk)	99.07	-	*
	H. S. vatal	2442(Av)	91.26	-	*
	Horizontal	4884(Pk)	50.78	74.00	-23.22
		4884(Av)	37.82	54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00	-16.18
		2462(Pk)	104.75	54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00	*
		2462(Pk)	97.51	54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00	*
	Martinal	2483.5(Pk)	55.71		-18.29
	Vertical	2483.5(Av)	43.15	54.00	-10.85
		4924(Pk)	51.01	54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00	-22.99
0.400.00		4924(Av)	37.01	54.00	-16.99
2462.00		2462(Pk)	98.93	-	*
		2462(Pk)	91.33	54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00	*
	Hawimantal	2483.5(Pk)	52.34		-21.66
	Horizontal	2483.5(Av)	38.97	54.00	-15.03
		4924(Pk)	51.31	74.00	-22.69
		4924(Av)	38.09	54.00	-15.91
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Table 35: MCS15 HT20_External Antenna

Channel Frequency (MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dB _μ V/m)	Limit (dBμV/m)	Margin (dB)
		2390(Pk)	56.53	74.00	-17.47
		2390(Av)	Field Strength (dBμV/m) Limit (dBμV/m) 56.53 74.00 43.82 54.00 104.23 - 96.98 - 50.37 74.00 36.78 54.00 52.14 74.00 39.62 54.00 99.30 - 91.19 - 50.90 74.00 37.46 54.00 103.67 - 97.24 - 50.59 74.00 36.99 54.00 98.43 - 90.83 - 50.14 74.00 37.39 54.00 104.77 - 96.80 - 56.09 74.00	-10.18	
	Vartiaal	2412(Pk)	104.23	(dBμV/m) 74.00 54.00 - 74.00 54.00 74.00 54.00 - 74.00 54.00 - 74.00 54.00 - 74.00 54.00 - 74.00 54.00 - 74.00 54.00 - 74.00 54.00 - 74.00 74.00 74.00	*
	Vertical -	2412(Av)	96.98		*
		4824(Pk)	50.37	74.00	-23.63
0440.00		4824(Av)	36.78	54.00	-17.22
2412.00		2390(Pk)	52.14	74.00	-21.86
		2390(Av)	39.62	54.00	-14.38
	Horizontal -	2412(Pk)	99.30	-	*
	Horizontai	2412(Av)	91.19	-	*
		4824(Pk)	50.90	74.00	-23.10
		4824(Av)	37.46	54.00	-16.54
		2442(Pk)	103.67	-	*
	Vertical	2442(Av)	97.24	-	*
	Vertical -	4884(Pk)	50.59	74.00	-23.41
2442.00		4884(Av)	36.99	54.00	-17.01
2442.00		2442(Pk)	98.43	-	*
	Horizontal	2442(Av)	90.83	-	*
	Honzontai	4884(Pk)	50.14	74.00	-23.86
		4884(Av)	37.39	54.00	-16.61
		2462(Pk)	104.77	-	*
		2462(Pk)	96.80	-	*
2462.00	\/o#issl	2483.5(Pk)	56.09	74.00	-17.91
2462.00	Vertical -	2483.5(Av)	43.75	(dBµV/m) 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 74.00 54.00 - 74.00 54.00 - 74.00 54.00 - 74.00 54.00	-10.25
		4924(Pk)	51.10	74.00	-22.90
		4924(Av)	37.11	54.00	-16.89

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		2462(Pk)	99.42	-	*
		2462(Pk) 91.83 -	*		
2462.00	0400 00	2483.5(Pk)	52.49	74.00	-21.51
2462.00	Horizontal	2483.5(Av)	39.51	54.00	-14.49
		4924(Pk)	51.08	74.00	-22.92
		4924(Av)	38.05	54.00	-15.95

Table 36: MCS15 HT40_External Antenna

Channel Frequency (MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
		2390(Pk)	61.57	-	-12.43
		2390(Av)	49.31		-4.69
	Vertical	2422(Pk)	100.67		*
	vertical	2422(Av)	91.46	-	*
		4844(Pk)	50.58	74.00	-23.42
2422.00		4844(Av)	36.62	54.00	-17.38
2422.00		2390(Pk)	57.36	74.00	-16.64
		2390(Av)	45.06	54.00	-8.94
	l la vi=antal	2422(Pk)	83.43	(dBµV/m) 74.00 54.00 - 74.00 54.00 74.00 54.00 - 74.00 54.00 - 74.00 54.00 - 74.00 54.00 - 74.00	*
	Horizontal	2422(Av)	86.29		*
		4844(Pk)	50.13	74.00	-23.87
		4844(Av)	36.79	54.00	-17.21
		2437(Pk)	102.89	-	*
	Vertical	2437(Av)	96.72	-	*
	vertical	4874(Pk)	49.81	74.00	-24.19
2437.00		4874(Av)	36.47	54.00	-17.53
2437.00		2437(Pk)	97.65	-	*
	Horizontol	2437(Av)	90.31	-	*
	Horizontal	4874(Pk)	49.36	74.00	-24.64
		4874(Av)	36.87	54.00	-17.13

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		2457(Pk)	99.46	-	*
	Vertical	2457(Av)	90.88	-	*
	Vertical	2457(Av) 90.88 2483.5(Pk) 62.50 2483.5(Av) 49.11 4914(Pk) 50.62 4914(Av) 37.04 2457(Pk) 93.69 2457(Av) 85.48 2483.5(Pk) 56.04 2483.5(Pk) 56.04 4914(Pk) 51.78	62.50	74.00	-11.50
	vertical	2483.5(Av)	49.11	54.00	-4.89
		4914(Pk)	50.62	74.00	-23.38
2457.00		4914(Av)	37.04	54.00	-16.96
2437.00		2457(Pk)	93.69	-	*
		2457(Av)	85.48	-	*
	Horizontal	2483.5(Pk)	56.04	74.00	-17.96
	Honzontai	2483.5(Av)	43.28	54.00	-10.72
		4914(Pk)	51.78	74.00	-22.22
		4914(Av)	37.04	54.00	-16.96

BLE

Table 37: 1 Mbps_Internal Antenna

Channel Frequency (MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
		2390(Pk)	40.96	74.00	-33.04
		2390(Av)	31.37	54.00	-22.63
		2402(Pk)	88.07	-	*
0.400.00	Martinal	2402(Av)	82.52	-	*
2402.00	Vertical	4804(Pk)	50.18	74.00	-23.82
	4804(Av) 7206(Pk)	4804(Av)	36.62	54.00	-17.38
		57.67	74.00	-16.33	
		7206(Av)	44.11	54.00	-9.89

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		2390(Pk)	41.62	74.00	-32.38
		2390(Av)	31.27	54.00	-22.73
		2402(Pk)	88.61	-	*
2402.00	Horizontal	2402(Av)	83.09	-	*
2402.00	Honzoniai	4804(Pk)	50.20	74.00	-23.80
		4804(Av)	36.55	54.00	-17.45
		7206(Pk)	57.69	74.00	-16.31
		7206(Av)	44.48	54.00	-9.52
		2440(Pk)	89.78	-	*
		2440(Av)	84.25	-	*
	Vertical	4880(Pk)	50.92	74.00	-23.08
	vertical	4880(Av)	36.91	54.00	-17.09
		7320(Pk)	58.42	74.00	-15.58
2440.00		7320(Av)	44.88	54.00	-9.12
2440.00		2440(Pk)	88.77	-	*
		2440(Av)	83.24	-	*
	Horizontal	4880(Pk)	50.80	74.00	-23.20
	HUIIZUIIIAI	4880(Av)	36.93	54.00	-17.07
		7320(Pk)	58.63	74.00	-15.37
		7320(Av)	45.23	54.00	-8.77
		2480(Pk)	90.83	-	*
		2480(Av)	85.24	-	*
		2483.5(Pk)	53.68	74.00	-20.32
2480.00	Vertical	2483.5(Av)	28.61	54.00	-25.39
∠40U.UU	vertical	4960(Pk)	50.67	74.00	-23.33
		4960(Av)	37.06	54.00	-16.94
		7440(Pk)	59.00	74.00	-15.00
		7440(Av)	45.97	54.00	-8.03

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		2480(Pk)	88.52	-	*
		2480(Av)	81.80	-	*
		2483.5(Pk)	51.86	74.00	-22.14
2480.00	Horizontal	2483.5(Av)	25.46	54.00	-28.54
2400.00	Honzontai	4960(Pk)	51.00	74.00	-23.00
		4960(Av)	37.06	54.00	-16.94
		7440(Pk)	59.73	74.00	-14.27
		7440(Av)	46.07	54.00	-7.93

Table 38: 1 Mbps_External Antenna

Channel Frequency (MHz)	Polarization	Measured Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
		2390(Pk)	42.57	74.00	-31.43
		2390(Av)	28.61	54.00	-25.39
		2402(Pk)	92.16	-	*
0.400.00	Vantiaal	2402(Av)	86.94	-	*
2402.00	2402.00 Vertical	4804(Pk)	50.21	74.00	-23.79
		4804(Av)	36.48	54.00	-17.52
		7206(Pk)	57.99	74.00	-16.01
		7206(Av)	44.76	54.00	-9.24

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		2390(Pk)	42.46	74.00	-31.54
		2390(Av)	27.27	54.00	-26.73
		2402(Pk)	89.63	-	*
2402.00	Horizontal	2402(Av)	84.43	-	*
2402.00	Horizoniai	4804(Pk)	50.07	74.00	-23.93
		4804(Av)	36.51	54.00	-17.49
		7206(Pk)	58.41	74.00	-15.59
		7206(Av)	44.98	54.00	-9.02
	Vertical	2440(Pk)	94.73	-	*
		2440(Av)	89.25	-	*
		4880(Pk)	50.67	74.00	-23.33
	vertical	4880(Av)	36.83	54.00	-17.17
		7320(Pk)	58.01	74.00	-15.99
2440.00	7320(Av)	45.02	54.00	-8.98	
2440.00		2440(Pk)	89.90	-	*
		2440(Av)	84.41	-	*
	Horizontal	4880(Pk)	50.42	74.00	-23.58
	Tionzoniai	4880(Av)	36.82	54.00	-17.18
		7320(Pk)	57.86	74.00	-16.14
		7320(Av)	44.12	54.00	-9.88

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		2480(Pk)	95.40	-	*
		2480(Av)	89.90	-	*
		2483.5(Pk)	59.46	74.00	-14.54
	Vertical	2483.5(Av)	28.65	54.00	-25.35
	vertical	4960(Pk)	51.26	74.00	-22.74
		4960(Av)	36.98	54.00	-17.02
		7440(Pk)	59.00	74.00	-15.00
2480.00		7440(Av)	45.97	54.00	-8.03
2480.00		2480(Pk)	88.11	-	*
		2480(Av)	82.60	-	*
		2483.5(Pk)	52.46	74.00	-21.54
	Horizontal	2483.5(Av)	25.37	54.00	-28.63
	nonzonial	4960(Pk)	50.80	74.00	-23.20
		4960(Av)	37.04	54.00	-16.96
		7440(Pk)	59.73	74.00	-14.27
		7440(Av)	46.07	54.00	-7.93

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