FCC 47 CFR PART 15 SUBPART C
CLASS II PERMISSIVE CHANGE

CERTIFICATION TEST REPORT

FOR

60 GHz WIRELESS HIGH DEFINITION (HD) SOURCE

MODEL NUMBER: SII-SK63102

FCC ID: UK2-SII-SK63102

REPORT NUMBER: 14U18023-1, REVISION B

ISSUE DATE: OCTORBER 6, 2014

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	09/07/2014	Initial Issue	M. Heckrotte
A	09/22/2014	Editorial update	S. Aguilar
B	10/6/2014	Update section 5.3 and 7.3	S. Aguilar

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	SILICON IMAGE 1140 EAST ARQUES AVE SUNNYVALE, CA, 94085, U.S.A.
EUT DESCRIPTION:	60GHz WIRELESSHD TRANSMITTER
MODEL:	SII-SK63102
SERIAL NUMBER:	f1:ad:50:7b:82:00 d9:9a:5d:a4:91:00
DATE TESTED:	JUNE 10 – JULY 30, 2014

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	Pass

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

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Tested By:

STEVE AGUILAR
EMC ENGINEER
UL Verification Services Inc.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2009, FCC CFR 47 Part 2, FCC CFR 47 Part 15, FCC KDB 200443 D02 RF Detection Method V01, FCC KDB 200443 Millimeter Wave Test Procedure.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☐ Chamber A	☐ Chamber D
☐ Chamber B	☐ Chamber E
☐ Chamber C	☒ Chamber F
	☒ Chamber G

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://ts.nist.gov/standards/scopes/2000650.htm.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	±3.52 dB
Radiated Disturbance, 30 to 1000 MHz	±4.94 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a WirelessHD Source radio module. It is designed to operate as part of a Wireless Video Audio Network (WVAN) in the 57 to 64 GHz band. The EUT sends High Definition Audio/Video to a WirelessHD Sink radio device.

The EUT transmits High Definition Audio/Video data on a single Medium Rate (MRP) or High Rate (HRP) channel at either 60.48 GHz or 62.64 GHz. The integral MRP/HRP transmit antenna is an adaptive beam-steering array with a maximum gain of 18 dBi.

The EUT transmits and receives control and management signals on one of five Low Rate (LRP) channels for each MRP/HRP channel. LRP channels range from 60.16275 to 60.79725 GHz (for MRP/HRP at 60.48 GHz) or from 62.32275 to 62.95725 GHz (for MRP/HRP at 62.64 GHz). The integral LRP transmit/receive antenna is a scanning beam-steering array with a maximum gain of 16 dBi.

The LRP modulation is BPSK. The MRP modulation is QPSK, at a data rate of 0.476, 0.952, 0.714 or 1.190 Gb/s The HRP modulation can be either QPSK or 16-QAM. Three system data rates are implemented: QPSK at 0.952 Gb/s (Quarter Rate), QPSK at 1.904 Gb/s (Half Rate) and 16-QAM at 3.807 Gb/s (Full Rate).

5.2. DESCRIPTION OF CLASS II PERMISSIVE CHANGE

The Host control interface is changed from USB to I2C. There is a new board layout (New dimensions and new shield).

5.3. OUTPUT POWER

The antenna is integral thus radiated measurements are made. The EIRP was measured at the worst-case condition, thus the EIRP measurement conditions correspond to the maximum EUT antenna gain. Therefore the maximum antenna gain is used to calculate the Peak Output Power.

The highest peak conducted output power for LRP is 10.6 dBm (11.5mW).

The highest peak conducted output power for MRP is 13.9 dBm (24.5 mW)

The highest peak conducted output power for HRP is 10.3 dBm (10.72mW).

5.4. WORST-CASE CONFIGURATION AND MODE

The 1080p video mode was determined to be the worst case mode for emissions.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST			
Description	**Manufacturer**	**Model**	**Serial Number**
HDMI TV	Samsung	LT23A350	Z3VEHCRC200971J
HDMI TV	Sony	KDL-32W600A	2122590
Laptop	Lenovo	T400	2767AP1
BD Player	Sony	BDP-S185	2090609
DC Supply	HP	E3632A	KR75303598
Shield Tent	Select Fabricators	600 Series	N/A
Receiver	Silicon Image	SII-SK63101	2c:39:a7:ce:c4:00
Receiver	Silicon Image	SII-SK63101	12:05:df:7d:92:00

Note: Laptop using USB to Mini-USB was used to set EUT into an operational mode and was not used as part of the test.

I/O CABLES

I/O CABLE LIST						
Cable No.	**Port**	**# of Identica Ports**	**Connector Type**	**Cable Type**	**Cable Length**	**Remarks**
1	DC	2	DC,Barrel	Unshielded	1.4M	Ferrite on DC end
2	AC	1	AC,2P	Unshielded	0.5M	N/A
3	DC	1	DC,Barrel	Unshielded	1.3M	N/A
4	HDMI	2	HDMI	Shielded	3.7M	N/A
5	AC	1	AC,2P	Unshielded	1.5M	N/A
6	AC	1	AC,2P	Unshielded	1.6M	N/A
7	AC	1	AC,3P	Unshielded	1.8M	N/A
8	AC	1	AC,2P	Unshielded	1.8M	N/A
9	HDMI	1	DHMI	Shielded	0.9m	Ferrite on each end
10	DC	1	DC,Barrel	Unshielded	3M	Ferrite on Input end

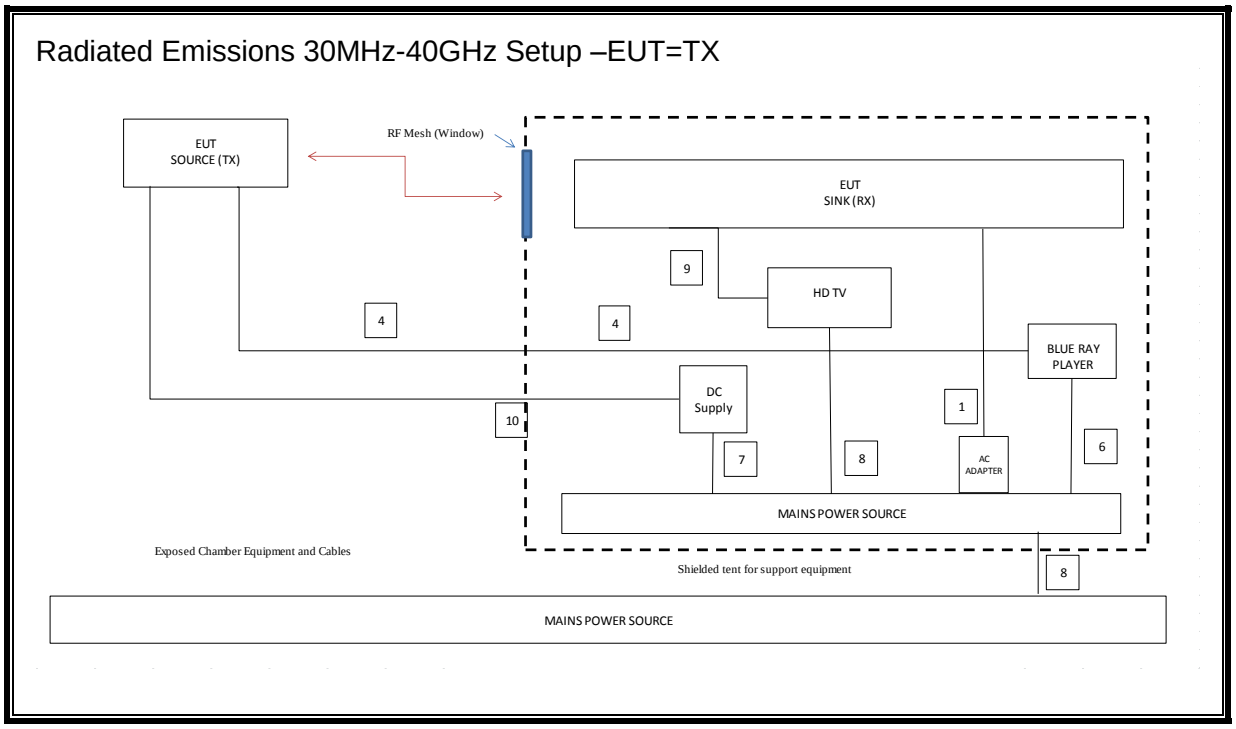
TEST SETUP

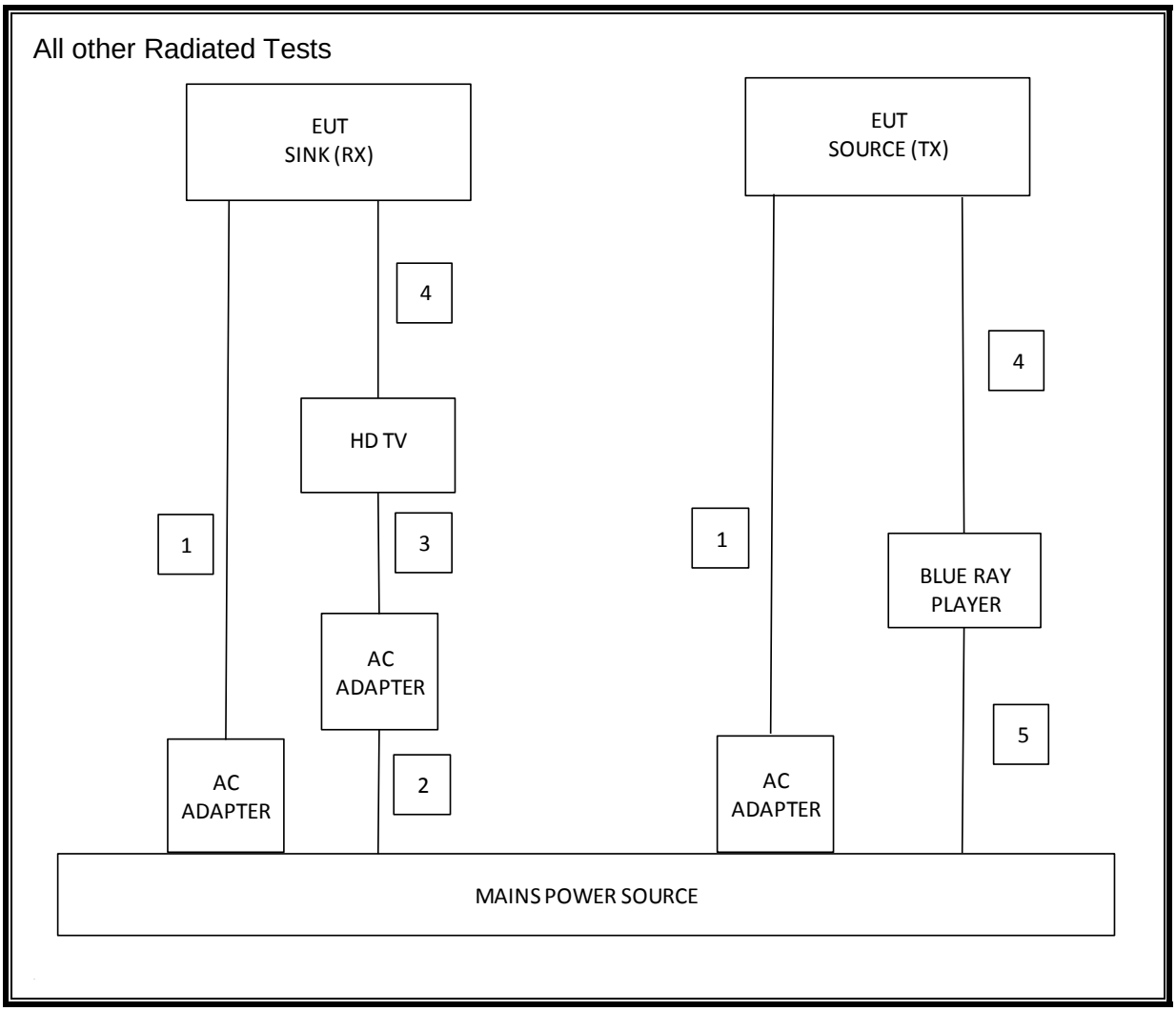
The Blue ray player was placed inside a shielded tent. High Definition Video noise pattern was sent from the Blue Ray player to the EUT via a conducted HDMI cable connection to the test jig, then sent from the EUT to the Television via an over-the-air link to the WiHD Sink.

The Television and WiHD Sink were placed inside the shielded tent and below the EUT in order to eliminate emissions from the support equipment and to maintain a constant transmission link during all radiated emission tests.

A laptop computer was utilized to adjust the EUT for testing purposes. This computer was not connected during measurements.

SETUP DIAGRAM FOR TESTS





6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment List				
Description	**Manufacturer**	**Model**	**S/N**	**Cal Due**
N9030A PXA Signal Analyzer	Agilent	N9030A	MY52350427	1/22/2015
Analog Signal Generator, 40 GHz	Agilent	E8257D	MY48050681	9/19/2014
Down Converter, 67 GHz	Agilent	MT-463	12020	CNR
mmWave Source 50 - 75 GHz	OML	S15MS-AG	80708-4	CNR
Mixer Diplexer for HP	OML	DPL.313B	N02429	CNR
Harmonic Mixer, 50 GHz	Agilent	11970Q	3003A03363	9/25/2014
Harmonic Mixer, 75 GHz	Agilent	11970V	2521A01183	2/5/2015
Harmonic Mixer, 110 GHz	Agilent	11970W	2521A01314	2/13/2015
Harmonic Mixer, 90 to 140 GHz	OML	M08HWA	F90519-2	6/17/2015
Harmonic Mixer, 140 to 220 GHz	OML	M05HWA	G90519-1	6/17/2015
Single Average Power Meter	Agilent	N1913A	MY53100006	5/1/2015
Waveguide Power Sensor	Agilent	V8486A	MY52300008	3/22/2014
Power Sensor, 50 to 78 GHz	Agilent	V8486A	MY44420424	12/12/2014
Spectrum Analyzer, 40 GHz	Agilent	8564E	3943A01643	7/29/2014
Horn Antenna, 18 to 26.5GHz	ARA	MWH-1826/B	1049	11/26/2014
PreAmplifier, 1-26.5GHz	Agilent	8449B	3008A04710	3/23/2015
Preamplifier, 40 GHz	Miteq	NSP4000-SP2	924343	8/20/2014
Antenna, Horn, 40 GHz	ARA	MWH-2640/B	1029	6/28/2014
Single Average Power Meter	Agilent	N1913A	MY53100006	4/10/2014
Waveguide Power Sensor	Agilent	V8486A	MY52300008	3/22/2014
Oscilloscope, 2 channel, digital	Tektronox	TDS 3052	B016268	5/22/2014
Spectrum Analyzer, 44 GHz	Agilent	N9030A	MY53311010	5/17/2015
Antenna, Horn, 18 GHz	ETS Lindgren	3117	164318	4/14/2015
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	A051314-2	5/14/2015
RF PreAmplifier, 1-18GHz	Miteq	AFS42-00101800-25-S-42	1818464	6/26/2014
Preamp, 1000MHz	Sonoma	310N	T834	12/30/2014
Spectrum Analyzer, 44 GHz	Agilent	N9030A	MY51380911	2/12/2015
Antenna, Horn, 18 GHz	ETS Lindgren	3117	29310	3/20/2015
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	A022704	8/22/2015
RF PreAmplifier, 1-18GHz	Miteq	AFS42-00101800-25-S-42	T742	8/24/2014
Preamp, 1000MHz	Sonoma	8447D	310N	12/30/2014
Oscilloscope, 2 channel, digital	Tektronox	TDS 3044B	B040298	4/30/2015
Low Pass Filter, 10MHz	Solar Electronics	6623-10	136101	3/26/2015
Low Noise Amplifier	VIVAtech	VTLN-018-FB	51	CNR
Waveguide switch	mi-Wave	530V/387	1332	CNR
MM-Wave Isolator	Millitech	FBI-15-RSES0	1734	CNR
50-75GHZ RF Detector	Millitech	DET-15-RPFWI	41	CNR

7. APPLICABLE LIMITS AND TEST RESULTS

7.1. 6 dB BANDWIDTH

APPLICABLE RULE

§15.255 (e) (1) For the purposes of this paragraph (e)(1), emission bandwidth is defined as the instantaneous frequency range occupied by a steady state radiated signal with modulation, outside which the radiated power spectral density never exceeds 6 dB below the maximum radiated power spectral density in the band, as measured with a 100 kHz resolution bandwidth spectrum analyzer. The center frequency must be stationary during the measurement interval, even if not stationary during normal operation (e.g. for frequency hopping devices).

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

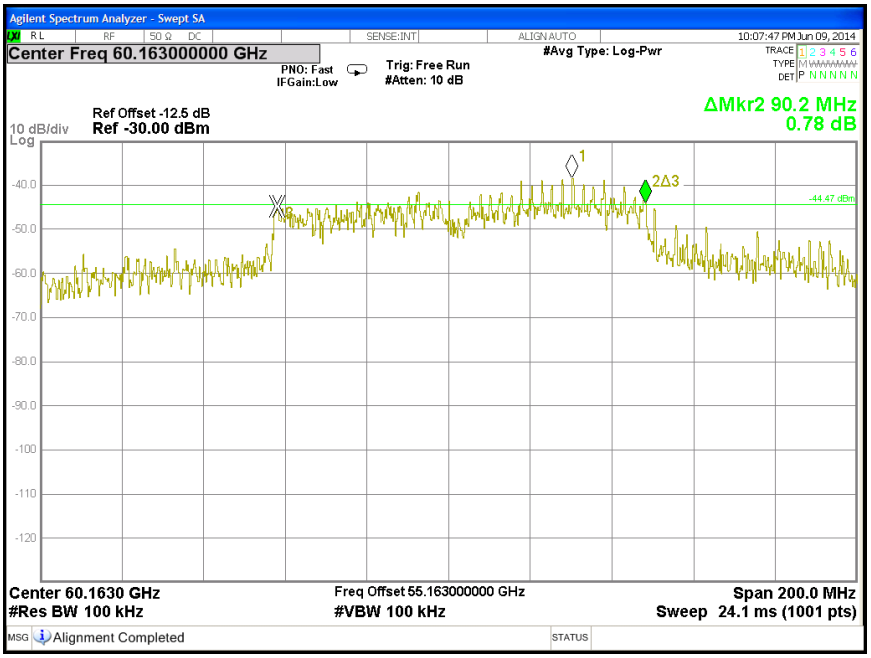
The spectrum analyzer and external mixer are set up to measure the radiated output of the transmitter.

7.1.1. Results for LRP Channels

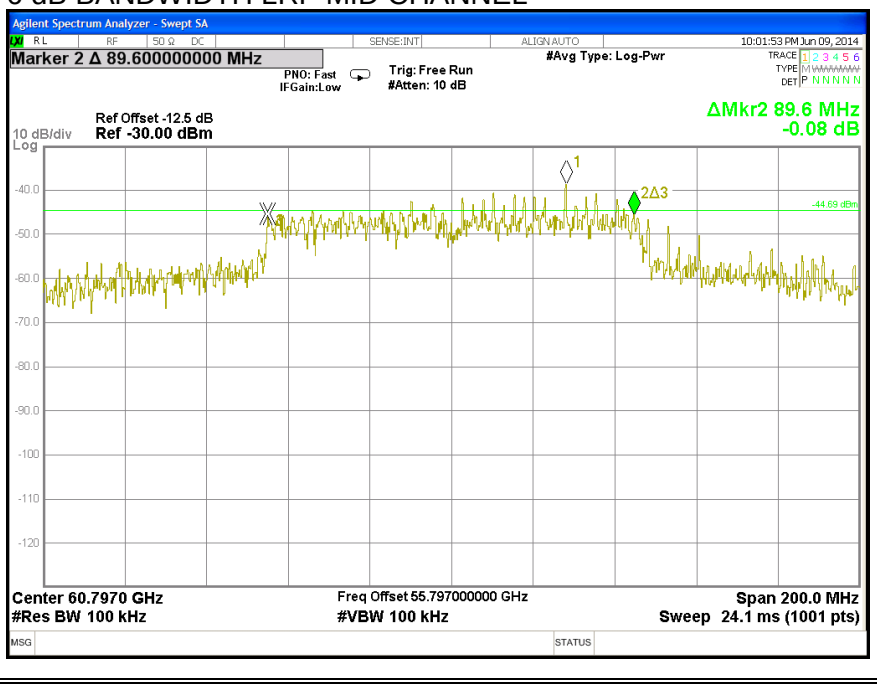
Channel	Frequency (GHz)	6 dB Bandwidth (MHz)
Low	60.163	90.20
Mid	60.797	89.60
High	62.957	85.40

6 dB BANDWIDTH

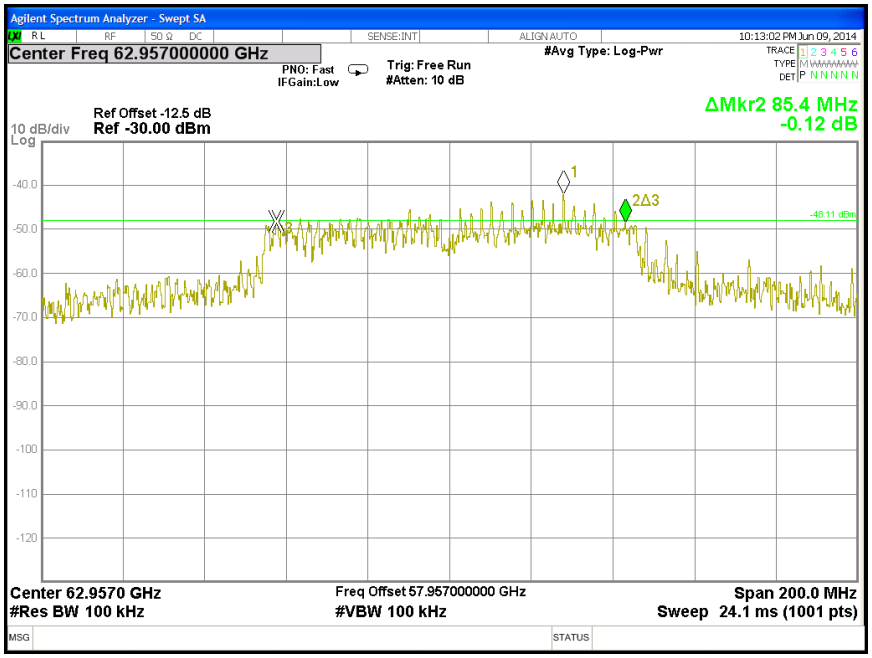
6 dB BANDWIDTH LRP LOW CHANNEL



6 dB BANDWIDTH LRP MID CHANNEL



6 dB BANDWIDTH LRP HIGH CHANNEL

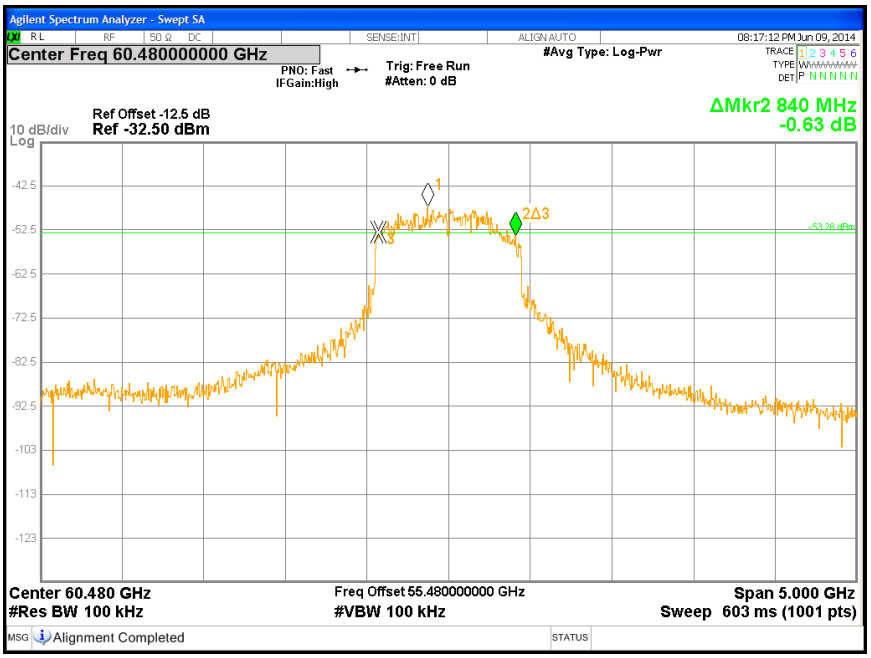


7.1.2. Results for MRP Channels

Channel	Frequency (GHz)	6 dB Bandwidth (GHz)
LOW	60.48	0.840
HIGH	62.64	0.850

6 dB BANDWIDTH

6 dB BANDWIDTH MRP CHANNEL-LOW



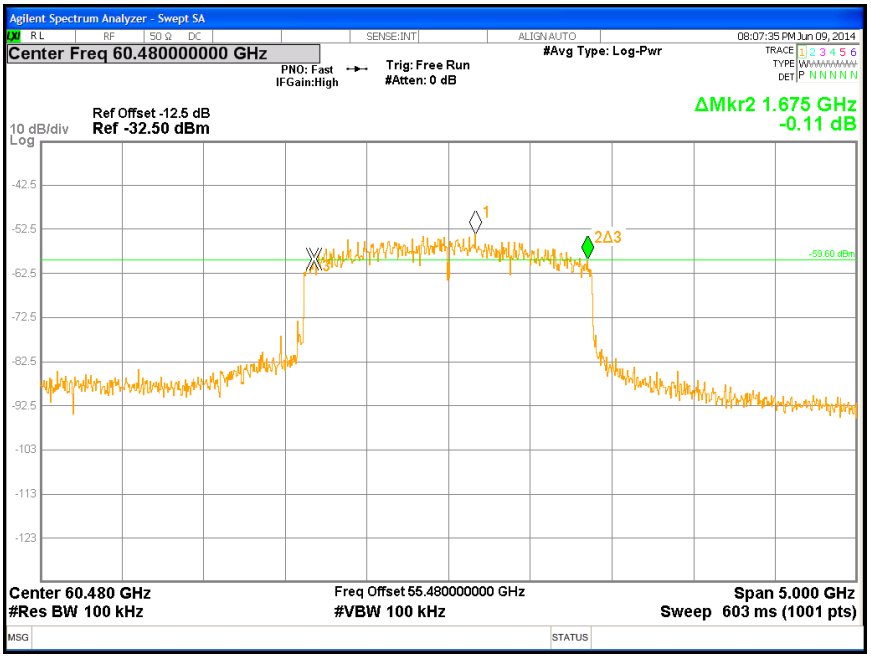
6 dB BANDWIDTH MRP CHANNEL-HIGH

7.1.3. Results for HRP Channels

Channel	Frequency (GHz)	6 dB Bandwidth (GHz)
LOW	60.48	1.675
HIGH	62.64	1.650

6 dB BANDWIDTH

6 dB BANDWIDTH HRP CHANNEL-LOW



6 dB BANDWIDTH HRP CHANNEL-HIGH

7.2. POWER DENSITY

LIMIT

§15.255 (b) (1) Within the 57-64 GHz band, the average power density of any emission, measured during the transmit interval, shall not exceed 9 uW/cm^2, as measured 3 meters from the radiating structure, and the peak power density of any emission shall not exceed 18 uW/cm^2, as measured 3 meters from the radiating structure.

TEST PROCEDURE

§15.255 (b) (6) KDB 200443 D02 RF Detection Method V01

Measurements are made at a distance greater than or equal to the far field boundary distance.

The measured power level is converted to EIRP using the Friis equation:

$EIRP = P_T * G_T = (P_R / G_R) * (4 * Pi * D / \lambda)^2$
where:
G_R is the gain of the receive measurement antenna
D is the measurement distance
λ is the wavelength
The EIRP is converted to Power Density using the equation:
$P_D = EIRP / (4 * Pi * D_S^2)$
where:
D_S is the specification distance

FAR FIELD BOUNDARY CALCULATIONS

The far-field boundary is given in FCC KDB Publication 200443 as:

$R_{far\ field} = (2 * L^2) / \lambda$

where:

L = Largest Antenna Dimension, including the reflector, in meters
λ = wavelength in meters

Frequency (GHz)	L (m)	Lambda (m)	R (Far Field) (m)
60.48	0.015	0.0050	0.09
62.64	0.015	0.0048	0.09

7.2.1. Peak and Average Power Density

LRP Low Channel

PEAK POWER DENSITY

Frequency (GHz)	Measurement Distance (m)	Measured Peak Voltage (mV)	Raw Measured Power (dBm)	Corrd Measured Power (dBm)	Rx Antenna Gain (dBi)
60.163	1.00	78.00	-18.77	-18.47	23.00
EIRP (dBm)	**EIRP (W)**	**Specification Distance (m)**	**Power Density (W/m^2)**	**Power Density (uW/cm^2)**	**Peak Limit (uW/cm^2)**
26.6	0.452	3.0	0.0040	0.40	18

AVERAGE POWER DENSITY

Frequency (GHz)	Measurement Distance (m)	Measured Average Voltage (mV)	Measured Power (dBm)	Corrd Measured Power (dBm)	Rx Antenna Gain (dBi)
60.163	1.00	1.83	-31.28	-30.98	23.00
EIRP (dBm)	**EIRP (W)**	**Specification Distance (m)**	**Power Density (W/m^2)**	**Power Density (uW/cm^2)**	**Average Limit (uW/cm^2)**
14.0	0.025	3.0	0.0002	0.02	9

LRP Mid Channel

PEAK POWER DENSITY

Frequency (GHz)	Measurement Distance (m)	Measured Peak Voltage (mV)	Raw Measured Power (dBm)	Corrd Measured Power (dBm)	Rx Antenna Gain (dBi)
62.323	1.00	48.00	-20.38	-20.08	23.00
EIRP (dBm)	**EIRP (W)**	**Specification Distance (m)**	**Power Density (W/m^2)**	**Power Density (uW/cm^2)**	**Peak Limit (uW/cm^2)**
25.3	0.335	3.0	0.0030	0.30	18

AVERAGE POWER DENSITY

Frequency (GHz)	Measurement Distance (m)	Measured Average Voltage (mV)	Measured Power (dBm)	Corrd Measured Power (dBm)	Rx Antenna Gain (dBi)
62.323	1.00	0.25	-31.18	-30.88	23.00
EIRP (dBm)	**EIRP (W)**	**Specification Distance (m)**	**Power Density (W/m^2)**	**Power Density (uW/cm^2)**	**Average Limit (uW/cm^2)**
14.5	0.028	3.0	0.0002	0.02	9

LRP High Channel

PEAK POWER DENSITY

Frequency (GHz)	Measurement Distance (m)	Measured Peak Voltage (mV)	Raw Measured Power (dBm)	Corrd Measured Power (dBm)	Rx Antenna Gain (dBi)
62.957	1.00	50.00	-19.74	-19.44	23.00
EIRP (dBm)	**EIRP (W)**	**Specification Distance (m)**	**Power Density (W/m^2)**	**Power Density (uW/cm^2)**	**Peak Limit (uW/cm^2)**
26.0	0.396	3.0	0.0035	0.35	18

AVERAGE POWER DENSITY

Frequency (GHz)	Measurement Distance (m)	Measured Average Voltage (mV)	Measured Power (dBm)	Corrd Measured Power (dBm)	Rx Antenna Gain (dBi)
62.957	1.00	0.68	-30.02	-29.72	23.00
EIRP (dBm)	**EIRP (W)**	**Specification Distance (m)**	**Power Density (W/m^2)**	**Power Density (uW/cm^2)**	**Average Limit (uW/cm^2)**
15.7	0.037	3.0	0.0003	0.03	9

MRP Low Channel (2)

PEAK POWER DENSITY

Frequency (GHz)	Measurement Distance (m)	Measured Peak Voltage (mV)	Raw Measured Power (dBm)	Corrd Measured Power (dBm)	Rx Antenna Gain (dBi)
60.48	1.00	112.00	-13.50	-13.20	23.00
EIRP (dBm)	**EIRP (W)**	**Specification Distance (m)**	**Power Density (W/m^2)**	**Power Density (uW/cm^2)**	**Peak Limit (uW/cm^2)**
31.9	1.538	3.0	0.0136	1.36	18

AVERAGE POWER DENSITY

Frequency (GHz)	Measurement Distance (m)	Measured Average (mV)	Measured Power (dBm)	Corrd Measured Power (dBm)	Rx Antenna Gain (dBi)
60.48	1.00	54.90	-17.70	-17.40	23.00
EIRP (dBm)	**EIRP (W)**	**Specification Distance (m)**	**Power Density (W/m^2)**	**Power Density (uW/cm^2)**	**Average Limit (uW/cm^2)**
27.7	0.585	3.0	0.0052	0.52	9

MRP High Channel (3)

PEAK POWER DENSITY

Frequency (GHz)	Measurement Distance (m)	Measured Peak Voltage (mV)	Raw Measured Power (dBm)	Corrd Measured Power (dBm)	Rx Antenna Gain (dBi)
62.64	1.00	86.00	-15.00	-14.70	23.00
EIRP (dBm)	**EIRP (W)**	**Specification Distance (m)**	**Power Density (W/m^2)**	**Power Density (uW/cm^2)**	**Peak Limit (uW/cm^2)**
30.7	1.168	3.0	0.0103	1.03	18

AVERAGE POWER DENSITY

Frequency (GHz)	Measurement Distance (m)	Measured Average (mV)	Measured Power (dBm)	Corrd Measured Power (dBm)	Rx Antenna Gain (dBi)
62.64	1.00	35.30	-18.73	-18.43	23.00
EIRP (dBm)	**EIRP (W)**	**Specification Distance (m)**	**Power Density (W/m^2)**	**Power Density (uW/cm^2)**	**Average Limit (uW/cm^2)**
26.9	0.495	3.0	0.0044	0.44	9

HRP Low Channel (2)

PEAK POWER DENSITY

Frequency (GHz)	Measurement Distance (m)	Measured Peak Voltage (mV)	Raw Measured Power (dBm)	Corrd Measured Power (dBm)	Rx Antenna Gain (dBi)
60.48	1.00	70.00	-17.03	-16.73	23.00
EIRP (dBm)	**EIRP (W)**	**Specification Distance (m)**	**Power Density (W/m^2)**	**Power Density (uW/cm^2)**	**Peak Limit (uW/cm^2)**
28.3	0.682	3.0	0.0060	0.60	18

AVERAGE POWER DENSITY

Frequency (GHz)	Measurement Distance (m)	Measured Average (mV)	Measured Power (dBm)	Corrd Measured Power (dBm)	Rx Antenna Gain (dBi)
60.48	1.00	20.90	-20.90	-20.60	23.00
EIRP (dBm)	**EIRP (W)**	**Specification Distance (m)**	**Power Density (W/m^2)**	**Power Density (uW/cm^2)**	**Average Limit (uW/cm^2)**
24.5	0.280	3.0	0.0025	0.25	9

HRP High Channel (3)

PEAK POWER DENSITY

Frequency (GHz)	Measurement Distance (m)	Measured Peak Voltage (mV)	Raw Measured Power (dBm)	Corrd Measured Power (dBm)	Rx Antenna Gain (dBi)
62.64	1.00	54.00	-18.01	-17.71	23.00
EIRP (dBm)	**EIRP (W)**	**Specification Distance (m)**	**Power Density (W/m^2)**	**Power Density (uW/cm^2)**	**Peak Limit (uW/cm^2)**
27.7	0.584	3.0	0.0052	0.52	18

AVERAGE POWER DENSITY

Frequency (GHz)	Measurement Distance (m)	Measured Average Voltage (mV)	Measured Power (dBm)	Corrd Measured Power (dBm)	Rx Antenna Gain (dBi)
62.64	1.00	12.00	-22.97	-22.67	23.00
EIRP (dBm)	**EIRP (W)**	**Specification Distance (m)**	**Power Density (W/m^2)**	**Power Density (uW/cm^2)**	**Average Limit (uW/cm^2)**
22.7	0.186	3.0	0.0016	0.16	9

7.3. PEAK OUTPUT POWER

LIMIT

§15.255 (e) Except as specified paragraph (e)(1) of this section, the peak transmitter conducted output power shall not exceed 500 mW. Depending on the gain of the antenna, it may be necessary to operate the intentional radiator using a lower peak transmitter output power in order to comply with the EIRP limits specified in paragraph (b) of this section.

§15.255 (e) (1) Transmitters with an emission bandwidth of less than 100 MHz must limit their peak transmitter conducted output power to the product of 500 mW times their emission bandwidth divided by 100 MHz. For the purposes of this paragraph, emission bandwidth is defined as the instantaneous frequency range occupied by a steady state radiated signal with modulation, outside which the radiated power spectral density never exceeds 6 dB below the maximum radiated power spectral density in the band, as measured with a 100 kHz resolution bandwidth spectrum analyzer. The center frequency must be stationary during the measurement interval, even if not stationary during normal operation (e.g., for frequency hopping devices).

PROCEDURE

The maximum EUT antenna gain is subtracted from the Peak EIRP.

7.3.1. Results for LRP Channels

PEAK OUTPUT POWER

CHANNEL-LOW

Frequency (GHz)	EIRP (dBm)	EUT Antenna Gain (dBi)	Output Power (dBm)	Output Power (mW)	6 dB Bandwidth (MHz)	Output Power Limit (mW)
60.163	26.6	16.00	10.60	11.5	90.2	451

CHANNEL-MID

Frequency (GHz)	EIRP (dBm)	EUT Antenna Gain (dBi)	Output Power (dBm)	Output Power (mW)	6 dB Bandwidth (MHz)	Output Power Limit (mW)
60.797	25.3	16.00	9.30	8.5	89.6	448

CHANNEL-HIGH

Frequency (GHz)	EIRP (dBm)	EUT Antenna Gain (dBi)	Output Power (dBm)	Output Power (mW)	6 dB Bandwidth (MHz)	Output Power Limit (mW)
62.957	26.0	16.00	10.00	10.0	85.4	427

7.3.2. Results for MRP Channels

MRP PEAK OUTPUT POWER-LOW

Frequency (GHz)	EIRP (dBm)	EUT Antenna Gain (dBi)	Output Power (dBm)	Output Power (mW)	6 dB Bandwidth (MHz)	Output Power Limit (mW)
60.48	31.9	18.00	13.90	24.5	840	500

MRP PEAK OUTPUT POWER-HIGH

Frequency (GHz)	EIRP (dBm)	EUT Antenna Gain (dBi)	Output Power (dBm)	Output Power (mW)	6 dB Bandwidth (MHz)	Output Power Limit (mW)
62.64	30.7	18.00	12.70	18.6	850	500

7.3.3. Results for HRP Channels

HRP PEAK OUTPUT POWER-LOW

Frequency (GHz)	EIRP (dBm)	EUT Antenna Gain (dBi)	Output Power (dBm)	Output Power (mW)	6 dB Bandwidth (MHz)	Output Power Limit (mW)
60.48	28.3	18.00	10.30	10.7	1675	500

HRP PEAK OUTPUT POWER-HIGH

Frequency (GHz)	EIRP (dBm)	EUT Antenna Gain (dBi)	Output Power (dBm)	Output Power (mW)	6 dB Bandwidth (MHz)	Output Power Limit (mW)
62.64	27.7	18.00	9.70	9.3	1650	500

7.4. SPURIOUS EMISSIONS

LIMITS

§15.255 (c) (1) The power density of any emissions outside the 57–64 GHz band shall consist solely of spurious emissions.

§15.255 (c) (2) Radiated emissions below 40 GHz shall not exceed the general limits in §15.209.

§15.255 (c) (3) Between 40 GHz and 200 GHz, the level of these emissions shall not exceed 90 pW/cm^2 at a distance of 3 meters.

§15.255 (c) (4) The levels of the spurious emissions shall not exceed the level of the fundamental emission.

§15.255 (d) Only spurious emissions and transmissions related to a publicly accessible coordination channel, whose purpose is to coordinate operation between diverse transmitters with a view towards reducing the probability of interference throughout the 57–64 GHz band, are permitted in the 57–57.05 GHz band.

Note to paragraph (d): The 57–57.05 GHz is reserved exclusively for a publicly-accessible coordination channel. The development of standards for this channel shall be performed pursuant to authorizations issued under part 5 of this chapter.

PROCEDURE FOR 30 MHz TO 40 GHz

ANSI C 63.10-2009

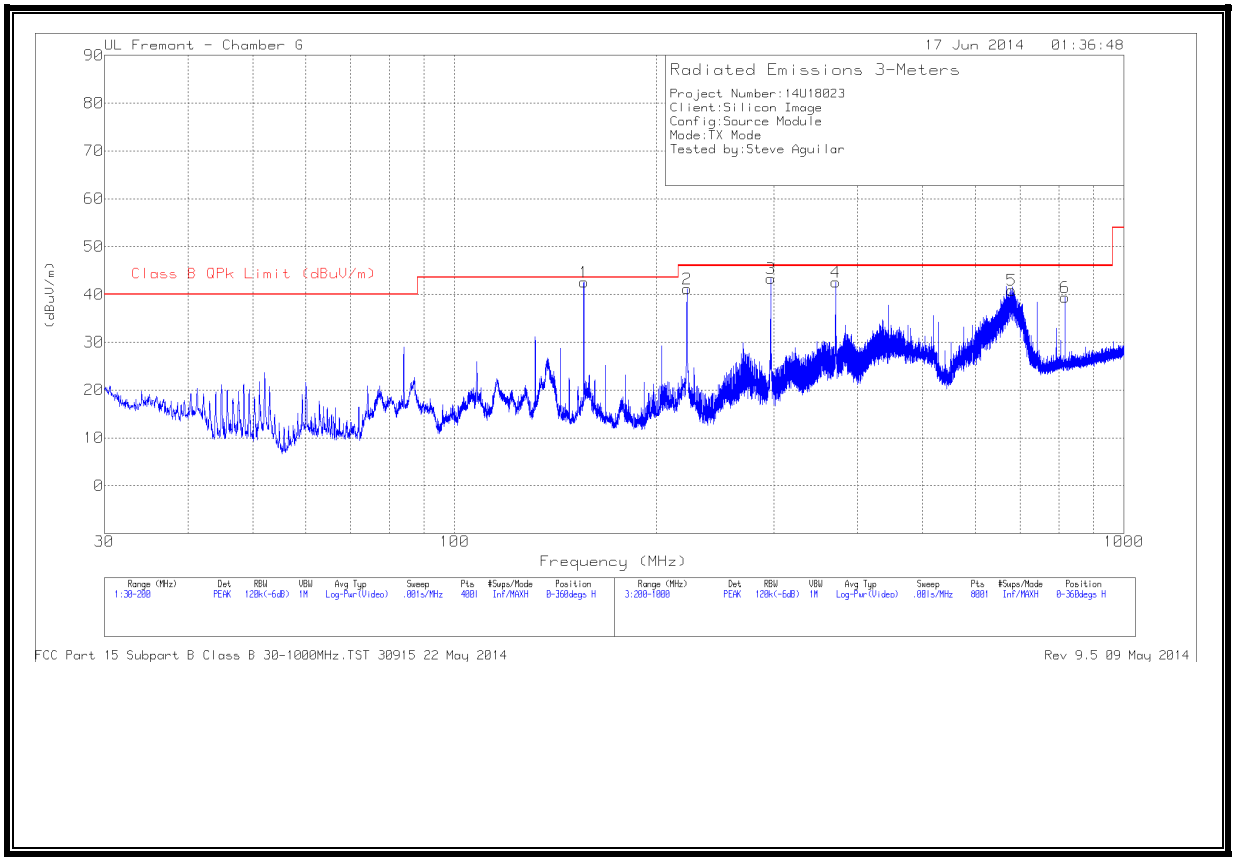
PROCEDURE FOR 40 TO 200 GHz

KDB200443 millimeter wave test procedure.

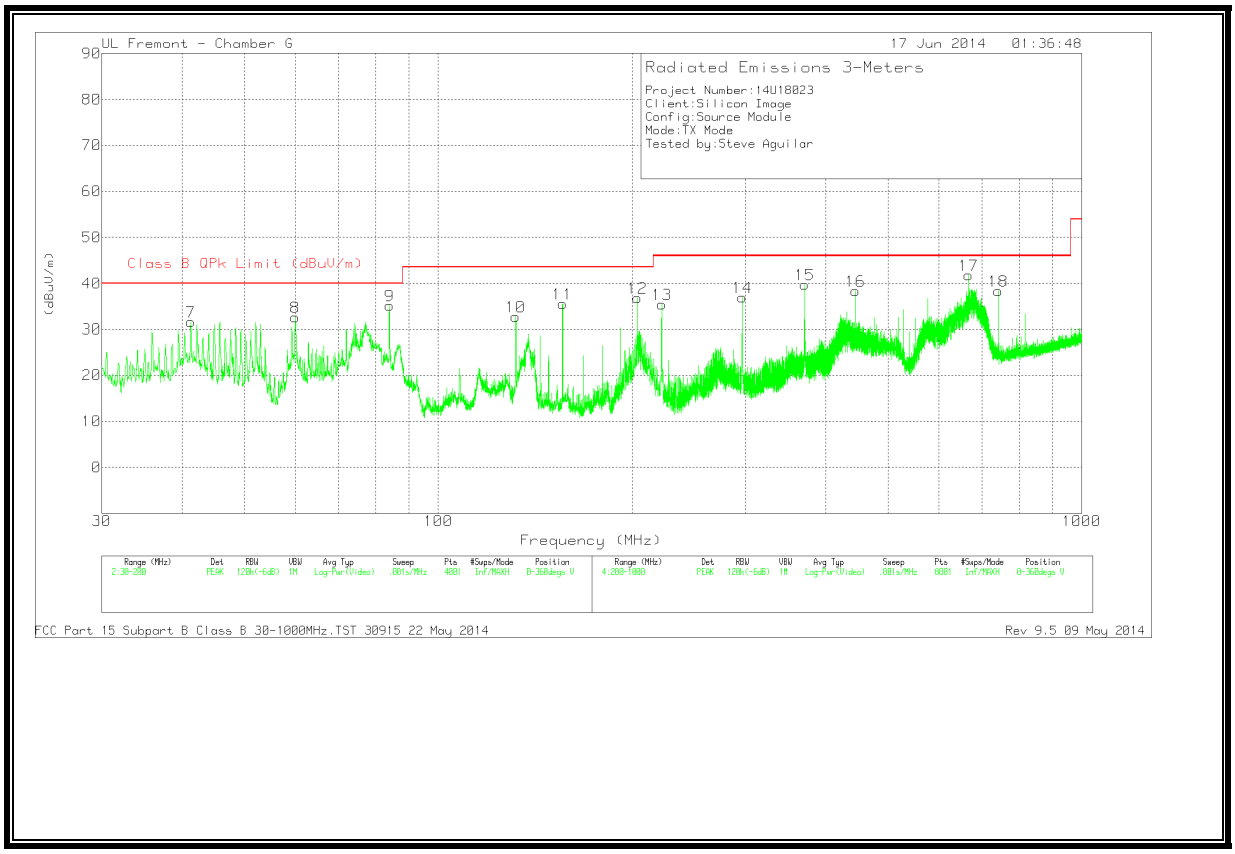
External harmonic mixers are utilized. The EIRP is measured, then the power density at a 3 meter distance is calculated.

7.4.1. Spurious Emission 30 TO 1000 MHz

SPURIOUS EMISSION 30 TO 1000 MHz (HORIZONTAL PLOT)



SPURIOUS EMISSION 30 TO 1000 MHz (VERTICAL PLOT)



TX AND RX SPURIOUS EMISSION 30 TO 1000 MHz VERTICAL AND HORIZONTAL DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Hybrid	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
7	41.2625	46.19	PK	16.3	-30.8	31.69	40	-8.31	0-360	100	V
8	59.9625	52.6	PK	10.7	-30.6	32.7	40	-7.3	0-360	100	V
9	84.0175	55.32	PK	10.2	-30.3	35.22	40	-4.78	0-360	100	V
10	132	45.76	PK	16.8	-29.8	32.76	43.52	-10.76	0-360	100	V
1	156.0125	56.81	PK	15.3	-29.5	42.61	43.52	-.91	0-360	200	H
11	156.0125	49.8	PK	15.3	-29.5	35.6	43.52	-7.92	0-360	100	V
12	204	50.8	PK	15.2	-29.2	36.8	43.52	-6.72	0-360	100	V
2	222.5	56.42	PK	13.6	-28.9	41.12	46.02	-4.9	0-360	100	H
13	222.5	50.77	PK	13.6	-28.9	35.47	46.02	-10.55	0-360	100	V
3	296.7	55.37	PK	16.4	-28.5	43.27	46.02	-2.75	0-360	100	H
14	296.7	49.05	PK	16.4	-28.5	36.95	46.02	-9.07	0-360	201	V
4	370.9	52.89	PK	17.8	-28.1	42.59	46.02	-3.43	0-360	100	H
15	370.9	50.11	PK	17.8	-28.1	39.81	46.02	-6.21	0-360	100	V
16	445	46.34	PK	19.7	-27.7	38.34	46.02	-7.68	0-360	201	V
17	667.6	46.02	PK	22.7	-26.9	41.82	46.02	-4.2	0-360	201	V
5	679.2	44.95	PK	22.8	-26.9	40.85	46.02	-5.17	0-360	100	H
18	741.8	41.24	PK	23.6	-26.5	38.34	46.02	-7.68	0-360	100	V
6	815.9	40.86	PK	24.6	-26.1	39.36	46.02	-6.66	0-360	100	H

PK - Peak detector

Radiated Emissions

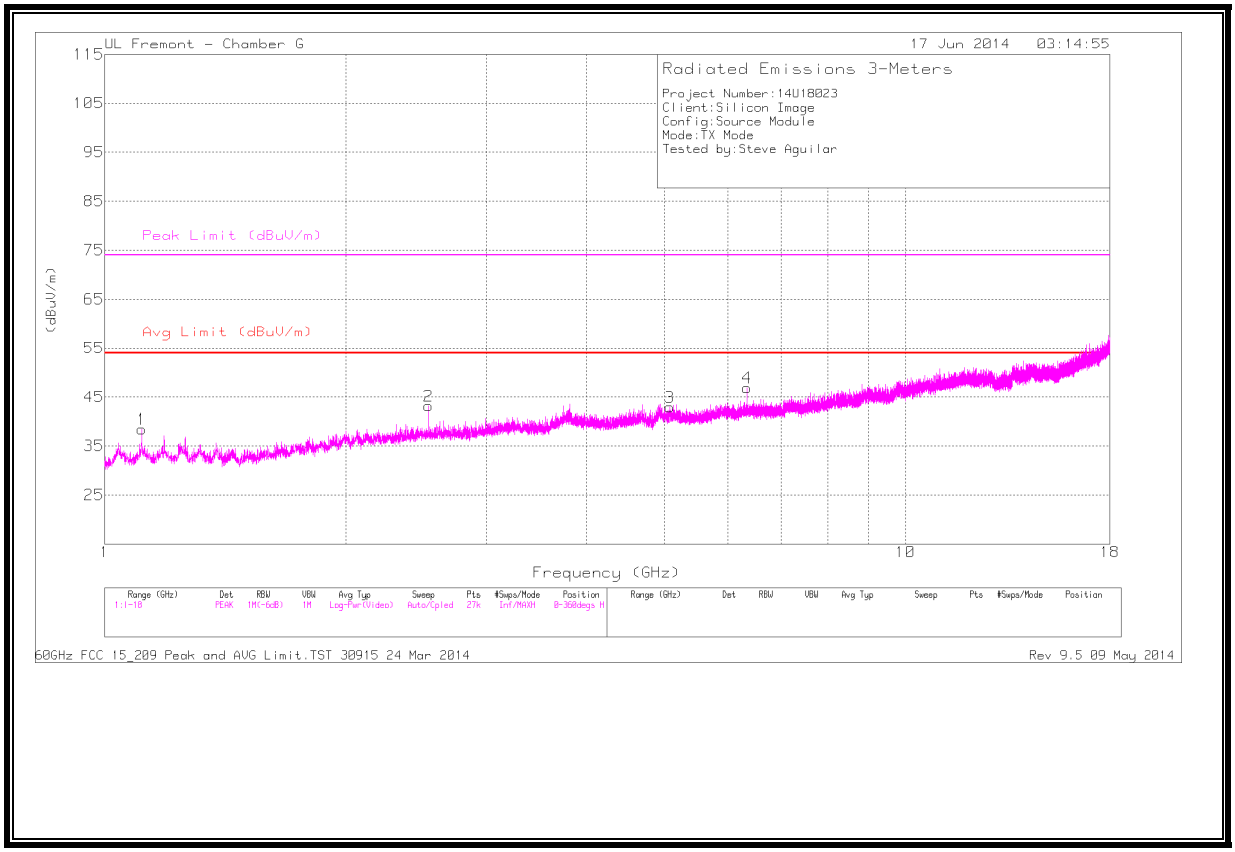
Frequency (MHz)	Meter Reading (dBuV)	Det	Hybrid	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
84.0006	54.19	QP	10.2	-30.3	34.09	40	-5.91	35	105	V
155.998	56.89	QP	15.3	-29.5	42.69	43.52	-.83	182	159	H
222.5296	56.7	QP	13.6	-28.9	41.4	46.02	-4.62	213	116	H
296.7015	54.72	QP	16.4	-28.5	42.62	46.02	-3.4	137	108	H
370.8793	53.28	QP	17.8	-28.1	42.98	46.02	-3.04	168	278	H
667.5791	45.66	QP	22.7	-26.9	41.46	46.02	-4.56	204	165	V
679.079	47.12	QP	22.8	-26.9	43.02	46.02	-3	296	141	H

QP - Quasi-Peak detector

FCC Part 15 Subpart B Class B 30-1000MHz.TST 30915 22 May 2014
Rev 9.5 09 May 2014

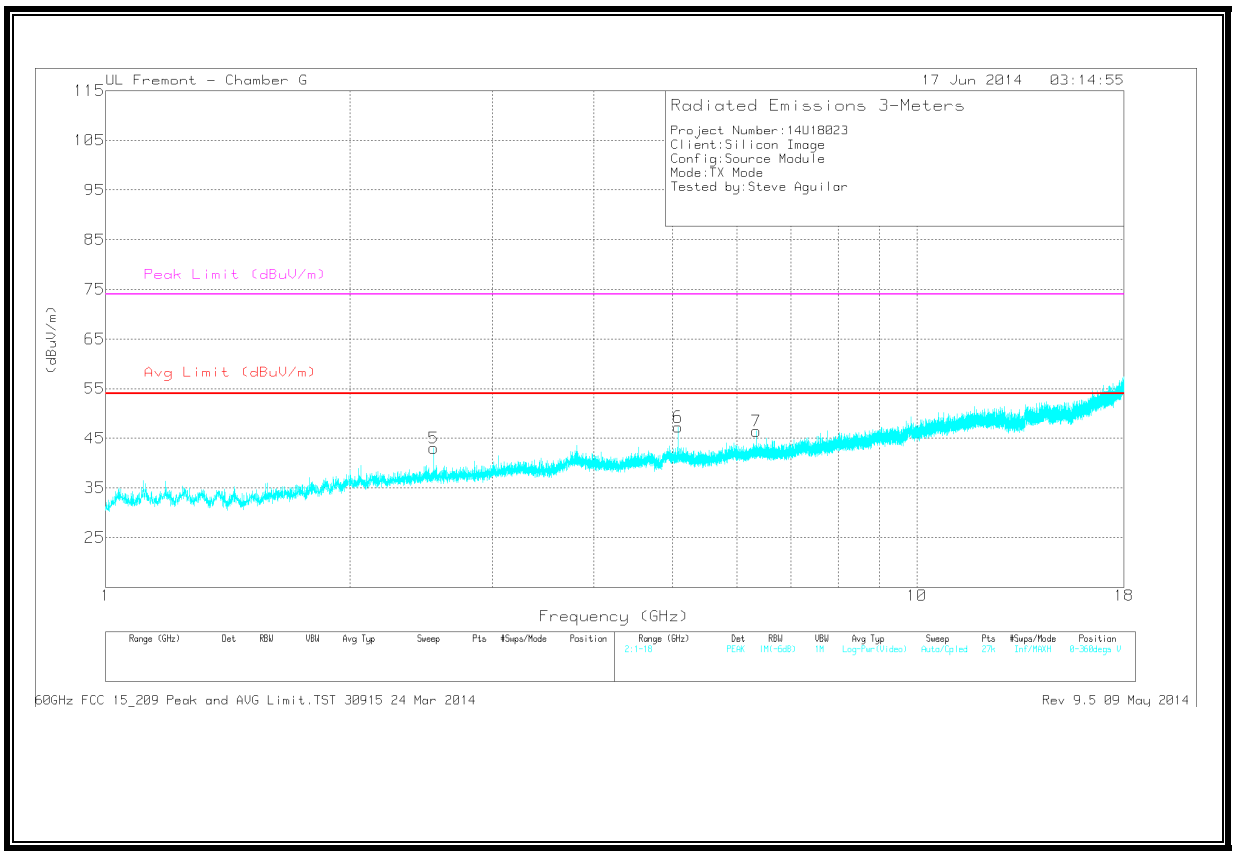
7.4.2. Spurious Emissions 1 TO 18 GHz

CHANNEL 2 - TX SPURIOUS EMISSION 1-18 GHz (HORIZONTAL PLOT)



Note: Average Limit line is for reference only.

CHANNEL 2 – TX SPURIOUS EMISSION 1-18 GHz (VERTICAL PLOT)



Note: Average Limit line is for reference only.

CHANNEL 2 TX SPURIOUS EMISSION 1-18 GHz

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.113	45.85	PK	28.5	-35.9	38.45	54	-	74	-35.55	0-360	200	H
3	5.076	42.15	PK	34.2	-33.4	42.95	54	-	74	-31.05	0-360	200	H
6	5.076	46.47	PK	34.2	-33.4	47.27	54	-	74	-26.73	0-360	201	V
2	2.538	45.88	PK	32	-34.7	43.18	54	-	74	-30.82	0-360	200	H
5	2.538	45.73	PK	32	-34.7	43.03	54	-	74	-30.97	0-360	101	V
4	6.345	44.41	PK	35.7	-33.2	46.91	54	-	74	-27.09	0-360	200	H
7	6.345	43.96	PK	35.7	-33.2	46.46	54	-	74	-27.54	0-360	201	V

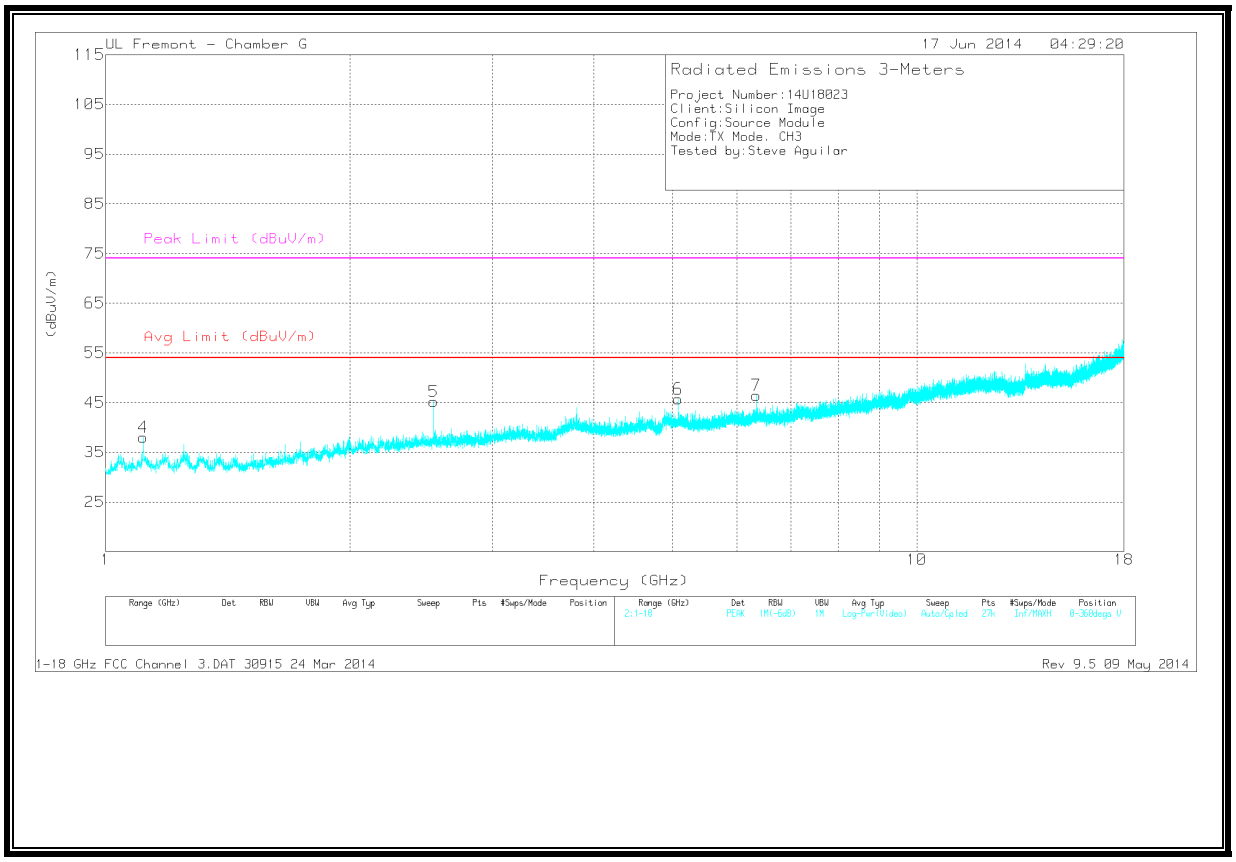
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.113	48.63	PK	28.5	-35.9	41.23	--	---	74	-32.77	56	213	H
1.113	38.33	Avg	28.5	-35.9	30.93	54	-23.07	--	--	56	213	H
5.076	45.64	PK	34.2	-33.4	46.44	--	--	74	-27.56	84	192	H
5.076	37.01	Avg	34.2	-33.4	37.81	54	-16.19	--	--	84	192	H
5.076	50.01	PK	34.2	-33.4	50.81	--	--	74	-23.19	78	198	V
5.076	46.1	Avg	34.2	-33.4	46.9	54	-7.1	--	--	78	198	V
2.538	49.35	PK	32	-34.7	46.65	--	--	74	-27.35	129	210	H
2.538	44.36	Avg	32	-34.7	41.66	54	-12.34	--	--	129	210	H
6.345	47.92	PK	35.7	-33.2	50.42	--	--	74	-23.58	158	144	H
6.345	41.18	Avg	35.7	-33.2	43.68	54	-10.32	--	--	158	144	H

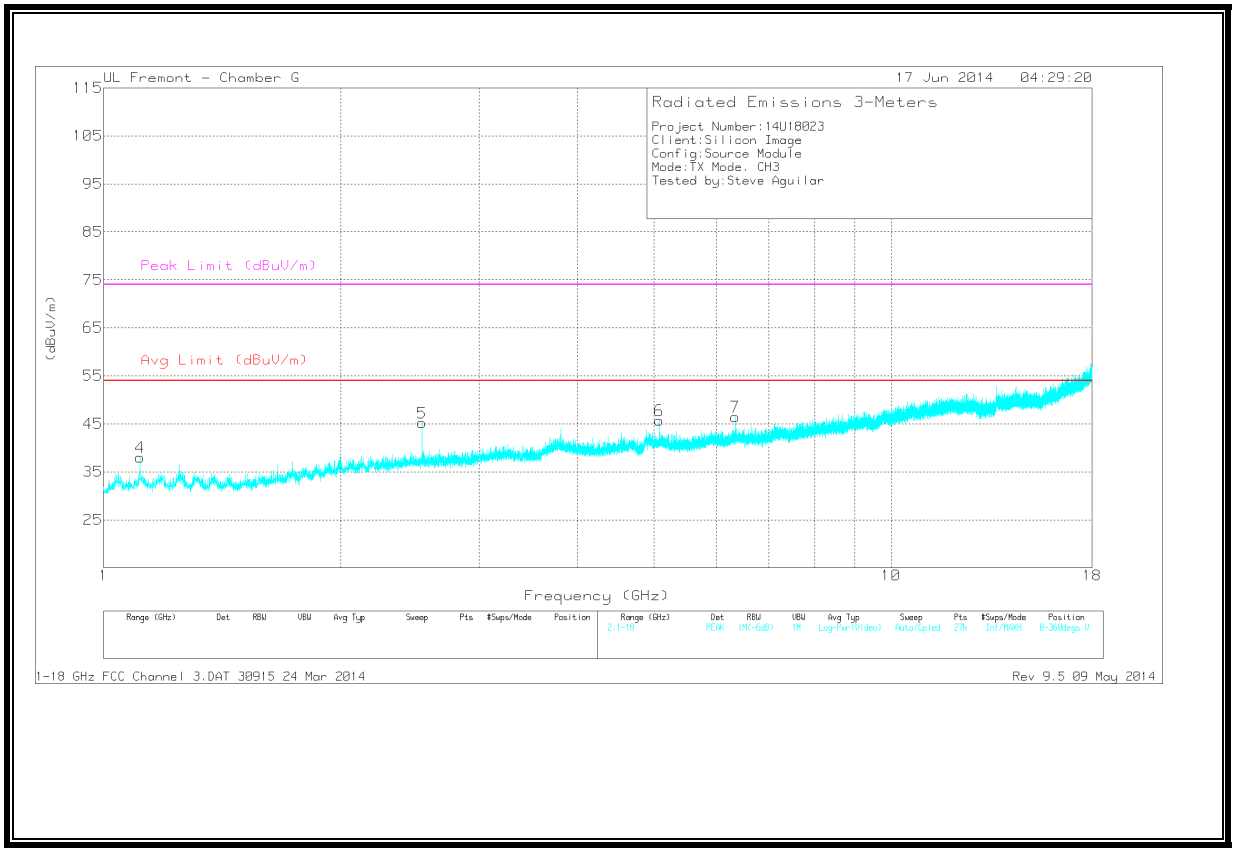
PK - Peak detector
Avg - Video bandwidth < Resolution bandwidth

CHANNEL 3 - TX SPURIOUS EMISSION 1-18 GHz (HORIZONTAL PLOT)



Note: Average Limit line is for reference only.

CHANNEL 3 – TX SPURIOUS EMISSION 1-18 GHz (VERTICAL PLOT)



Note: Average Limit line is for reference only.

CHANNEL 3TX SPURIOUS EMISSION 1-18 GHz

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.113	49.73	PK	28.5	-35.9	42.33	54	-	74	-31.67	0-360	200	H
4	1.113	45.44	PK	28.5	-35.9	38.04	54	-	74	-35.96	0-360	201	V
6	5.076	44.92	PK	34.2	-33.4	45.72	54	-	74	-28.28	0-360	201	V
2	2.538	49.65	PK	32	-34.7	46.95	54	-	74	- 27.05	0-360	101	H
5	2.538	47.92	PK	32	-34.7	45.22	54	-	74	- 28.78	0-360	201	V
3	6.345	44.43	PK	35.7	-33.2	46.93	54	-	74	- 27.07	0-360	200	H
7	6.345	43.96	PK	35.7	-33.2	46.46	54	-	74	- 27.54	0-360	101	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector

Radiated Emissions

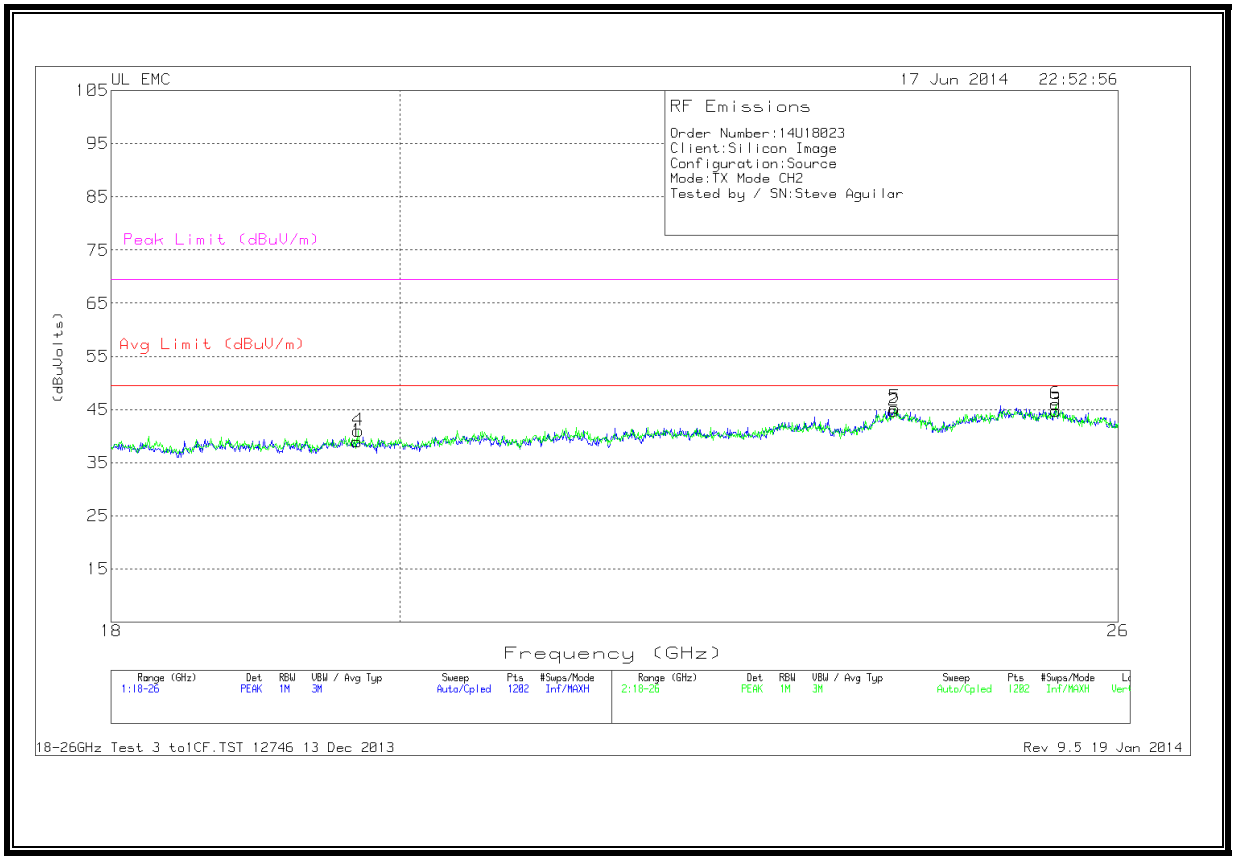
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T862 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.113	49.27	PK	28.5	-35.9	41.87	-	-	74	-32.13	184	218	H
1.113	38.29	Avg	28.5	-35.9	30.89	54	-23.11	-	-	184	218	H
1.113	49.57	PK	28.5	-35.9	42.17	-	-	74	-31.83	86	206	V
1.113	37.8	Avg	28.5	-35.9	30.4	54	-23.6	-	-	86	206	V
2.538	49.83	PK	32	-34.7	47.13	-	-	74	-26.87	62	146	H
2.538	45.7	Avg	32	-34.7	43	54	-11	-	-	62	146	H
5.706	41.88	PK	34.8	-33.5	43.18	-	-	74	-30.82	190	223	V
5.706	29.09	Avg	34.8	-33.5	30.39	54	-23.6	-	-	190	223	V
6.345	46.25	PK	35.7	-33.2	48.75	-	-	74	-25.25	166	226	H
6.345	39.63	Avg	35.7	-33.2	42.13	54	- 11.8	-	-	166	226	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band
PK - Peak detector
Avg - Video bandwidth < Resolution bandwidth

1-18 GHz FCC Channel 3.DAT 30915 24 Mar 2014
Rev 9.5 09 May 2014

7.4.3. Spurious Emissions 18 to 26 GHz

CHANNEL 2 - TX SPURIOUS EMISSION 18 TO 26 GHz (HORIZONTAL AND VERTICAL PLOT)



CHANNEL 2 -TX SPURIOUS EMISSION 18 TO 26 GHz

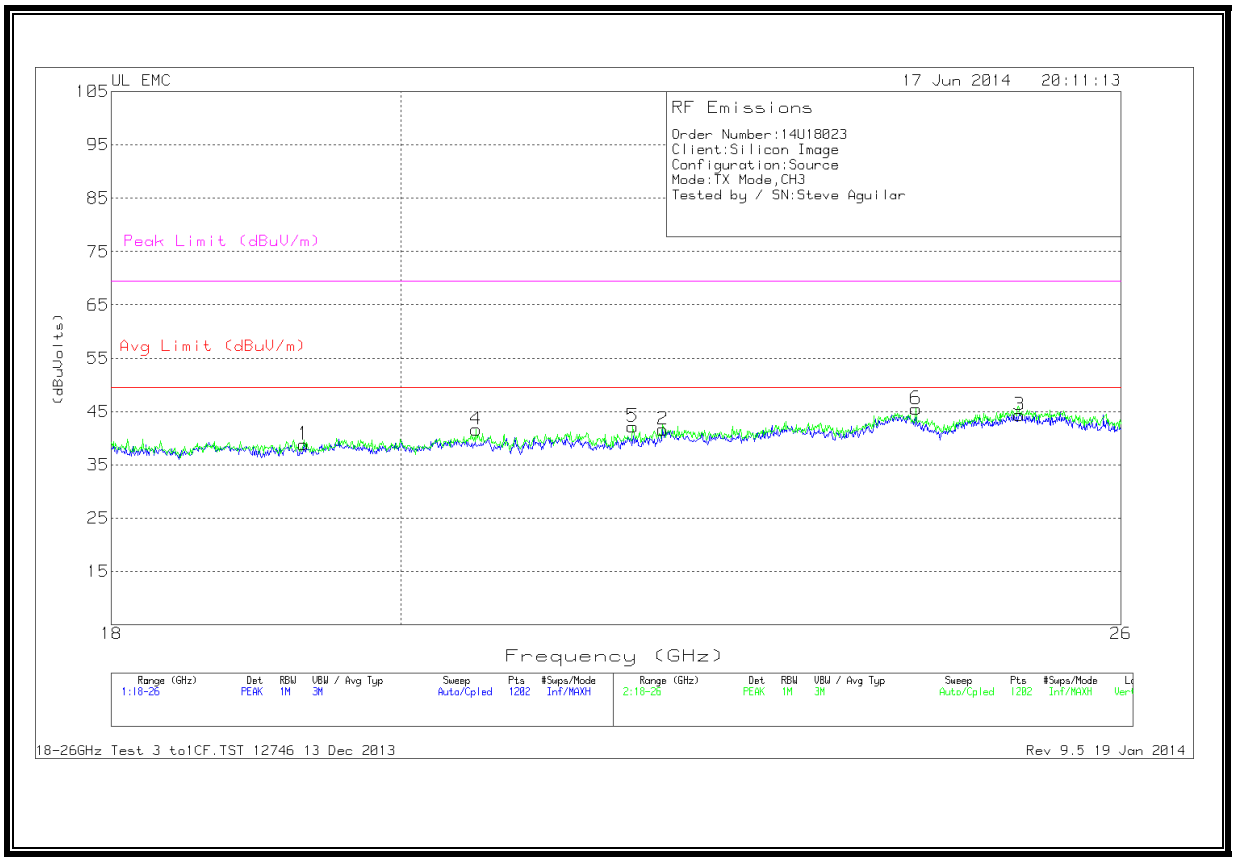
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T89 (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	19.692	40.2	PK	32.6	-24.3	-9.5	39	49.5	-10.5	69.5	-30.5
2	23.955	43.43	PK	33.6	-22.7	-9.5	44.83	49.5	-4.66	69.5	-24.66
3	25.414	43.23	PK	34	-22.9	-9.5	44.83	49.5	-4.66	69.5	-24.66
4	19.699	42	PK	32.7	-24.2	-9.5	41	49.5	-8.5	69.5	-28.5
5	23.962	43.93	PK	33.6	-22.7	-9.5	45.33	49.5	-4.16	69.5	-24.16
6	25.414	44.4	PK	34	-22.9	-9.5	46	49.5	-3.5	69.5	-23.5

PK - Peak detector

18-26GHz Test 3 to1CF.TST 12746 13 Dec 2013 Rev 9.5 19 Jan 2014

CHANNEL 3 - TX SPURIOUS EMISSION 18 TO 26 GHz (HORIZONTAL AND VERTICAL PLOT)



CHANNEL 3 -TX SPURIOUS EMISSION 18 TO 26 GHz

Trace Markers

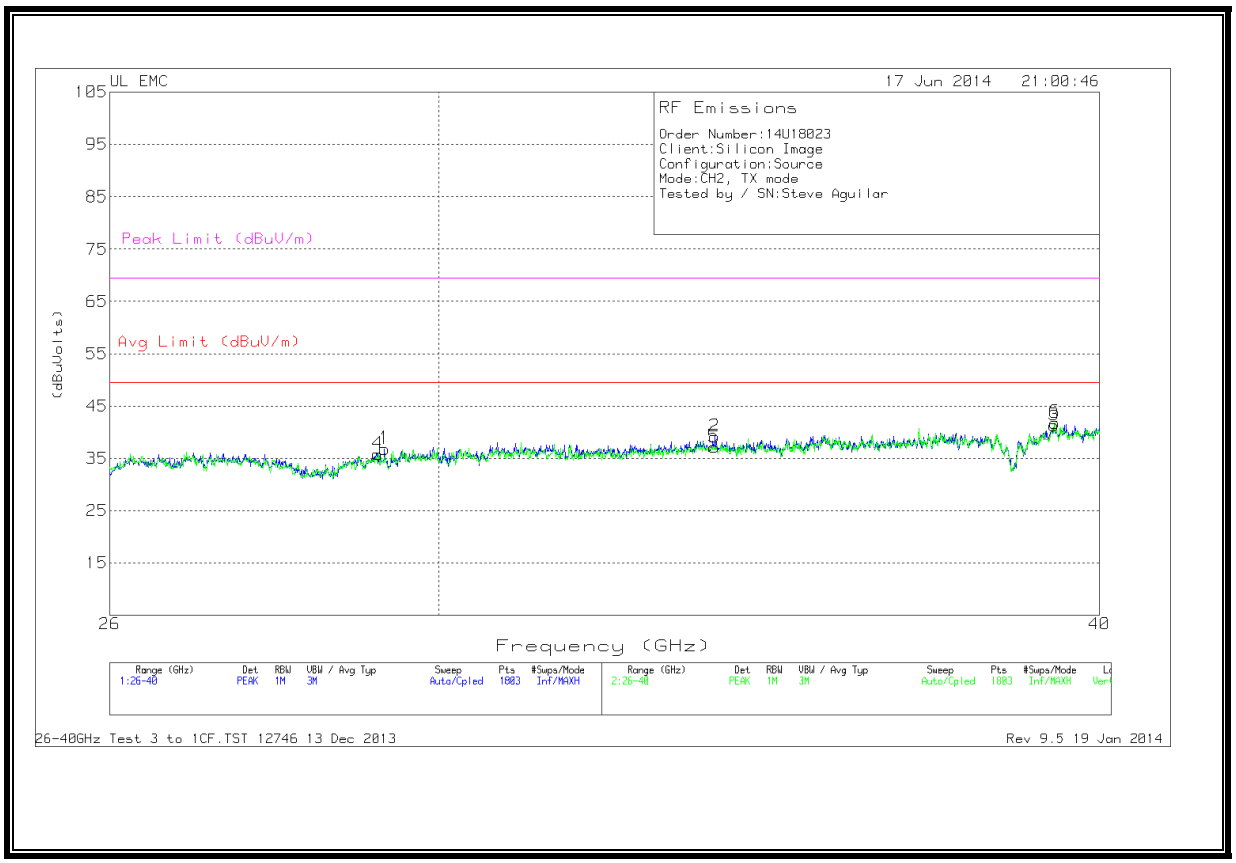
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T89 (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	19.306	39.73	PK	32.5	-23.9	-9.5	38.83	49.5	-10.66	69.5	-30.66
2	22.003	41.77	PK	33.3	-23.9	-9.5	41.66	49.5	-7.83	69.5	-27.83
3	25.054	42.43	PK	34	-22.6	-9.5	44.33	49.5	-5.16	69.5	-25.16
4	20.558	42.27	PK	32.8	-23.9	-9.5	41.66	49.5	-7.83	69.5	-27.83
5	21.764	41.87	PK	33.3	-23.5	-9.5	42.16	49.5	-7.33	69.5	-27.33
6	24.128	44	PK	33.7	-22.7	-9.5	45.5	49.5	-4	69.5	-24

PK - Peak detector

18-26GHz Test 3 to1CF.TST 12746 13 Dec 2013 Rev 9.5 19 Jan 2014

7.4.4. Spurious Emissions 26 TO 40 GHz

CHANNEL 2 - TX SPURIOUS EMISSION 26 TO 40 GHz (HORIZONTAL AND VERTICAL PLOT)



CHANNEL 2 -TX SPURIOUS EMISSION 26 TO 40 GHz

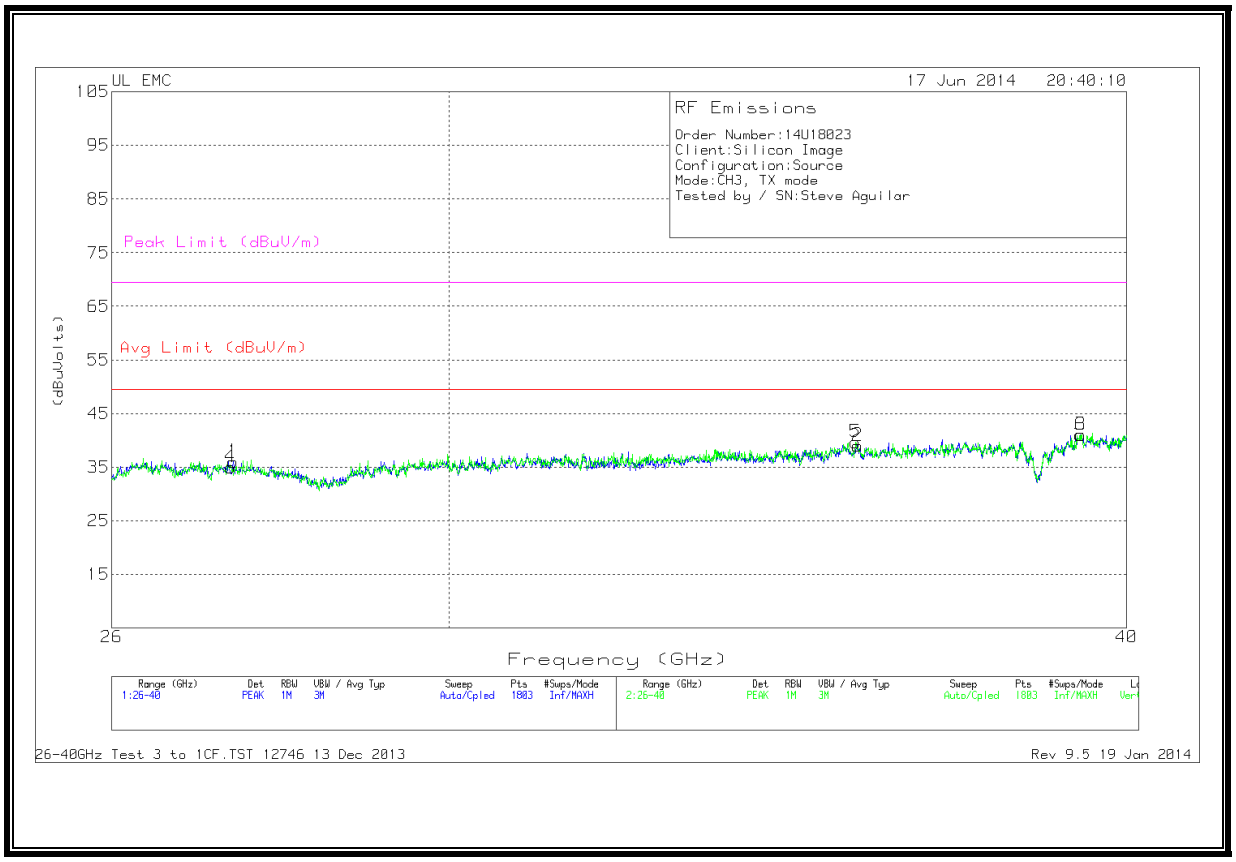
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T90 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	29.302	45.53	PK	35.9	-35.1	-9.5	36.83	49.5	-12.66	69.5	-32.66
2	33.831	48.57	PK	36.9	-36.8	-9.5	39.1	49.5	-10.33	69.5	-30.33
3	39.215	48.43	PK	38.4	-36	-9.5	41.33	49.5	-8.16	69.5	-28.16
4	29.216	44.93	PK	35.9	-35.5	-9.5	35.83	49.5	-13.66	69.5	-33.66
5	33.824	46.47	PK	36.9	-36.7	-9.5	37.16	49.5	-12.33	69.5	-32.33
6	39.231	49.03	PK	38.5	-36.2	-9.5	41.83	49.5	-7.66	69.5	-27.66

PK - Peak detector

26-40GHz Test 3 to 1CF.TST 12746 13 Dec 2013 Rev 9.5 19 Jan 2014

CHANNEL 3 - TX SPURIOUS EMISSION 26 TO 40 GHz (HORIZONTAL AND VERTICAL PLOT)



CHANNEL 3 -TX SPURIOUS EMISSION 26 TO 40 GHz

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T90 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	27.375	44.2	PK	35.7	-34.4	-9.5	36	49.5	-13.5	69.5	-33.5
2	35.68	48.7	PK	37.4	-37.6	-9.5	39	49.5	-10.5	69.5	-30.5
3	39.223	48	PK	38.5	-36	-9.5	41	49.5	-8.5	69.5	-28.5
4	27.344	43.2	PK	35.6	-34.3	-9.5	35	49.5	-14.5	69.5	-34.5
5	35.649	49.27	PK	37.5	-37.6	-9.5	39.66	49.5	-9.83	69.5	-29.83
6	39.231	48.2	PK	38.5	-36.2	-9.5	41	49.5	-8.5	69.5	-28.5

PK - Peak detector

26-40GHz Test 3 to 1CF.TST 12746 13 Dec 2013 Rev 9.5 19 Jan 2014

7.4.5. Spurious Emissions 40 TO 200 GHz

PEAK MEASUREMENT
Note: The peak density is less than the average limit
MRP/HRP Channel 2 (Low)

Frequency (GHz)	Measurement Distance (m)	Peak Power (dBm)	Rx Antenna Gain (dBi)	EIRP (dBm)
48.384	0.010	-69.20	20.00	-63.1
EIRP (W)	**Specification Distance (m)**	**Power Density (W/m^2)**	**Power Density (pW/cm^2)**	**Limit (pW/cm^2)**
4.93E-10	3.0	4.36E-12	0.00	90

MRP/HRP Channel 3 (High)

Frequency (GHz)	Measurement Distance (m)	Peak Power (dBm)	Rx Antenna Gain (dBi)	EIRP (dBm)
50.112	0.010	-39.08	20.00	-32.6
EIRP (W)	**Specification Distance (m)**	**Power Density (W/m^2)**	**Power Density (pW/cm^2)**	**Limit (pW/cm^2)**
5.45E-07	3.0	4.82E-09	0.48	90

7.5. AC MAINS LINE CONDUCTED EMISSIONS

LIMITS

§15.207

Frequency range (MHz)	Limits (dBµV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Notes: 1. The lower limit shall apply at the transition frequencies 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

TEST PROCEDURE

ANSI C63.10-2009

6 WORST EMISSIONS

Line-L1 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
1	.1905	52.48	PK	1	0	53.48	64	-10.52	-	-
2	.1905	29.67	Av	1	0	30.67	-	-	54	-23.33
3	17.4165	33.6	PK	.3	.2	34.1	60	-25.9	-	-
4	17.4165	16.94	Av	.3	.2	17.44	-	-	50	-32.56
5	29.67	27.94	PK	.3	.3	28.54	60	-31.46	-	-
6	29.67	14.77	Av	.3	.3	15.37	-	-	50	-34.63

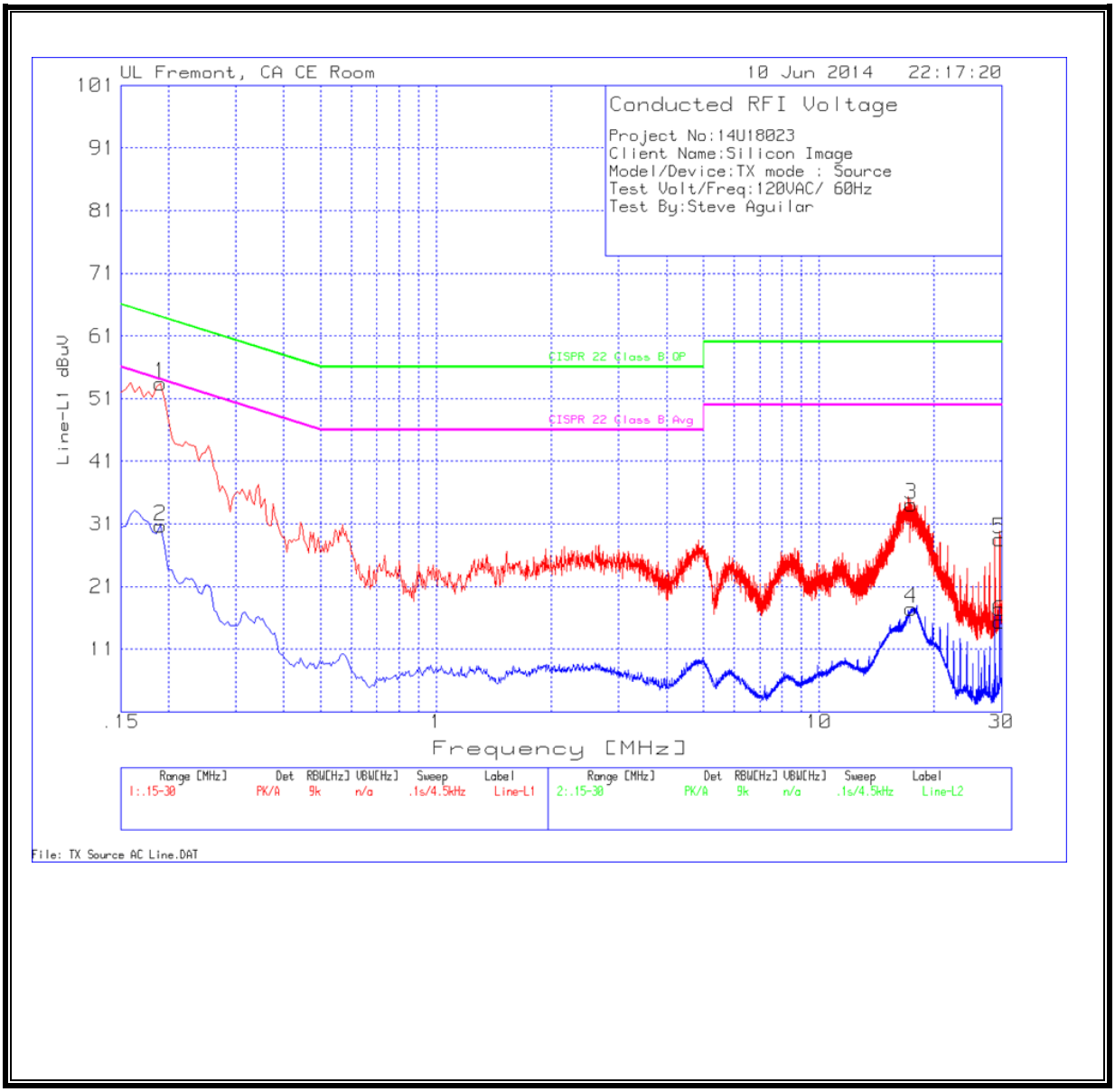
Line-L2 .15 - 30MHz

Trace Markers

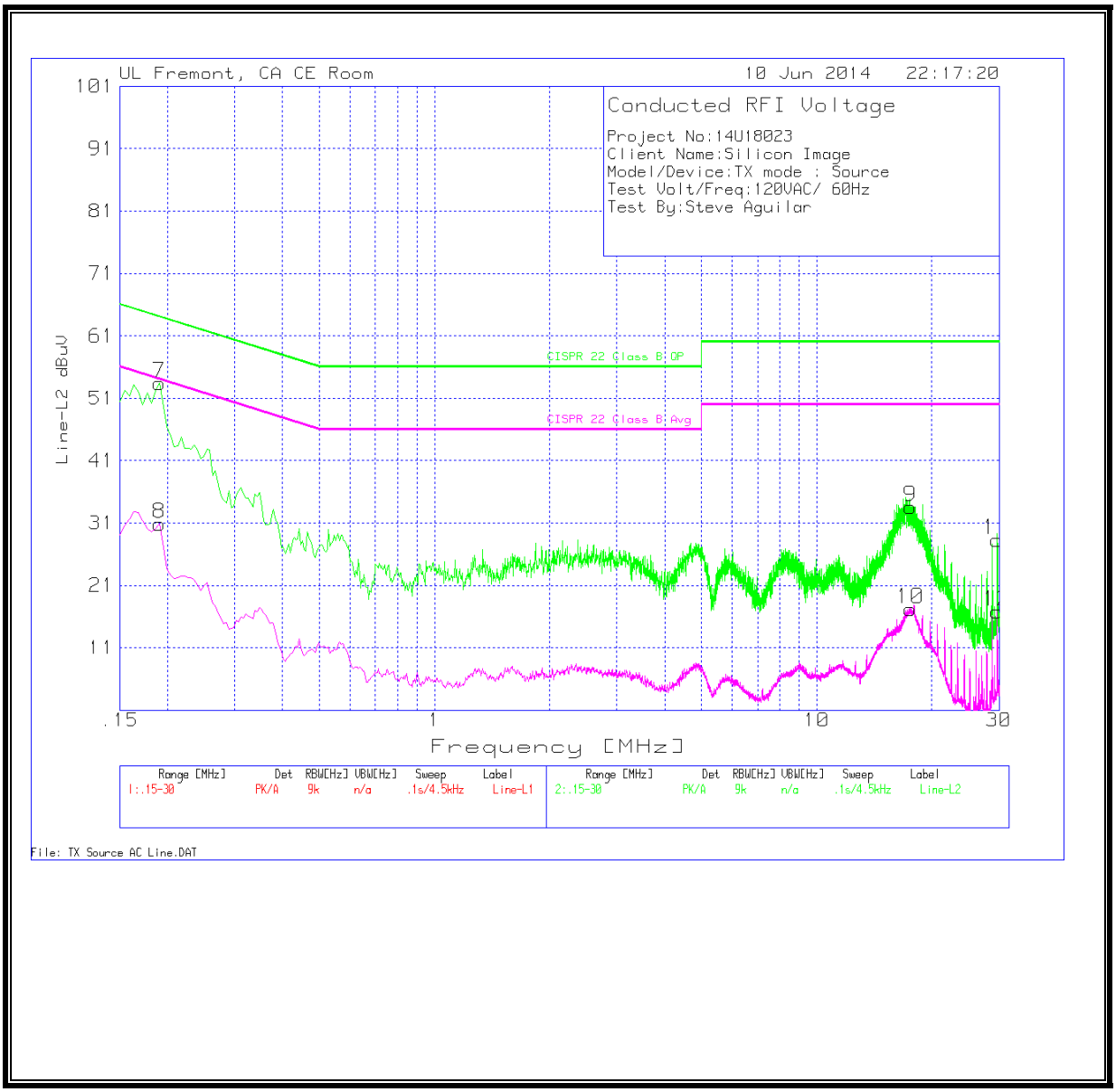
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
7	.1905	52.37	PK	1.1	0	53.47	64	-10.53	-	-
8	.1905	29.72	Av	1.1	0	30.82	-	-	54	-23.18
9	17.6235	33.1	PK	.3	.2	33.6	60	-26.4	-	-
10	17.6235	16.76	Av	.3	.2	17.26	-	-	50	-32.74
11	29.652	27.65	PK	.3	.3	28.25	60	-31.75	-	-
12	29.652	16.24	Av	.3	.3	16.84	-	-	50	-33.16

PK - Peak detector
Av - average detection

LINE 1 RESULTS



LINE 2 RESULTS



8. GROUP INSTALLATION

LIMIT

§15.255 (h) Any transmitter that has received the necessary FCC equipment authorization under the rules of this chapter may be mounted in a group installation for simultaneous operation with one or more other transmitter(s) that have received the necessary FCC equipment authorization, without any additional equipment authorization. However, no transmitter operating under the provisions of this section may be equipped with external phase-locking inputs that permit beam-forming arrays to be realized.

RESULTS

The frequency, amplitude and phase of the transmit signal are set within the EUT. There are no external phase-locking inputs or any other means of combining two or more units together to realize a beam-forming array.

9. RF EXPOSURE

FCC RULES

§1.1310 The criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093 of this chapter.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*($900/f^2$)	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*($180/f^2$)	30

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)—Continued

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density

NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

CALCULATIONS

EIRP is converted to Power Density using the equation:

P_D = EIRP / (4 * Pi * D_S^2)

where:

P_D = power density in W/m^2
EIRP = Equivalent Isotropic Radiated Power in W
D_S = separation distance in m

Power density in units of W/m^2 is converted to units of mW/cm^2 by dividing by 10.

RESULTS

The setup phase and normal operation do not occur simultaneously, therefore it is appropriate to consider the RF exposure during these two operating modes independently.

Setup Phase

Average EIRP (dBm)	Average EIRP (W)	Separation Distance (cm)	Power Density (mW/cm^2)	FCC Limit (mW/cm^2)
15.7	0.037	20	0.01	1

Normal Operation

Average EIRP (dBm)	Average EIRP (W)	Separation Distance (cm)	Power Density (mW/cm^2)	FCC Limit (mW/cm^2)
27.7	0.589	20	0.12	1