

0 Level (dBm/m)

Test Frequency:

-10 -20 -30 40 -50 -60 -70 -80 -90

-100₃₀

1

Test Frequency:

-10 -20

-30 -40 -50

Trace: (Discrete)

50

mhz

0 Level (dBm/m)

99.87

2 812.15

3 1284.65

4 1424.40

5 1586.32

6 2051.34

Mark Frequency Reading Antenna

dBm

-79.54

-70.28

-69.71

-70.65

-70.65

-56.98 33.50 -70.28 39.40

 CH_{H4}

 $\mathsf{CH}_{\mathsf{H4}}$

100

dB

26.08

39.82

40.25

41.21

200

dB

3.52

4.80

5.07

5.53

6.31

-8	0		1	massey of the south of the sout			Age where are described and a second a second and a second a second and a second and a second and a second and a second an		
-9	- North and Artis	work harmon when the	affer the state of	and the same of the same of the	A-MANAGE TO				
-10	30 50)	100	200		500	1000	2000	3000
	: (Discrete)			Free	quency (M	Hz)			
ark	Frequency	Reading	Antenna	Cable	Preamp	Level	Limit	Over	Remark
	mhz	dBm	dB	dB	dB	dBm	dBm	limit	
1	98.82	-79.02	25.92	1.14	29.09	-81.05	-25.00	-56.05	Peak
2	812.15	-61.30	33.50	3.52	29.01	-53.29	-25.00	-28.29	Peak
3	1345.31	-71.15	39.59	4.91	36.49	-63.14	-25.00	-38.14	Peak
4	1778.33	-70.45	40.64	5.92	37.09	-60.98	-25.00	-35.98	Peak
	2181.50	-72.64	41.55	6.42	37.34	-62.01	-25.00	-37.01	Peak
	5101.00								

3 1370.67

4 2134.09

5 2319.93

6 2491.65

-72.00

-73.21

-72.08

-71.92

39.68

41.44

41.94

42.33

4.95

6.38

6.64

6.83

36.48 -63.85

37.33 -62.72

37.68 -61.18

37.87 -60.63

-25.00

-25.00

-25.00

-25.00

Report	Template	Version:	H00	(2016-08))

Peak

Peak

Peak

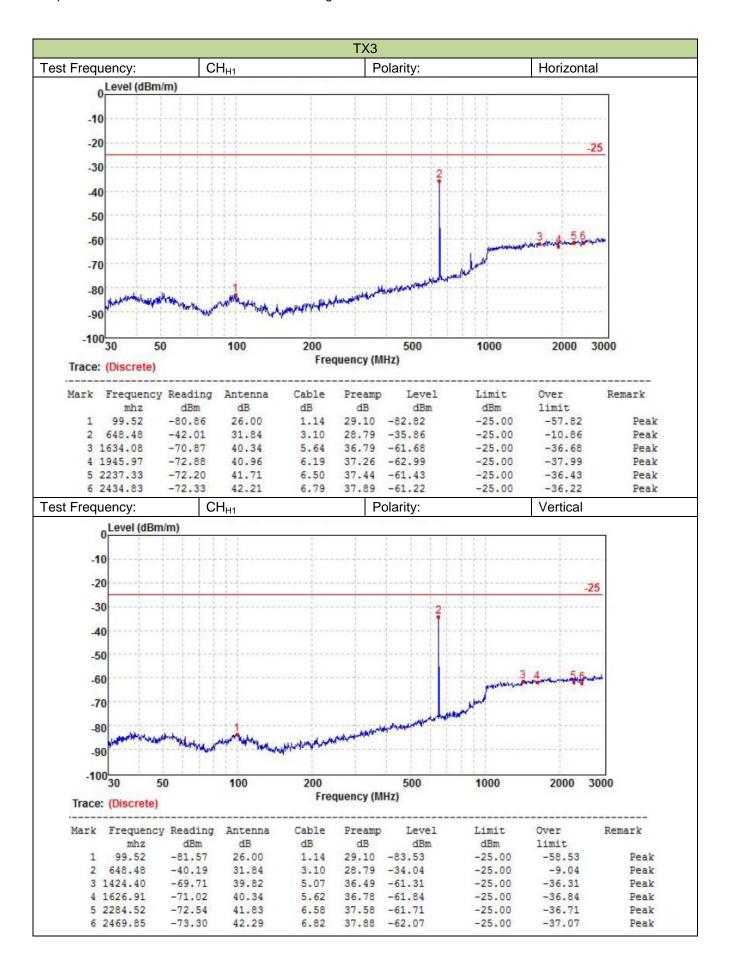
Peak

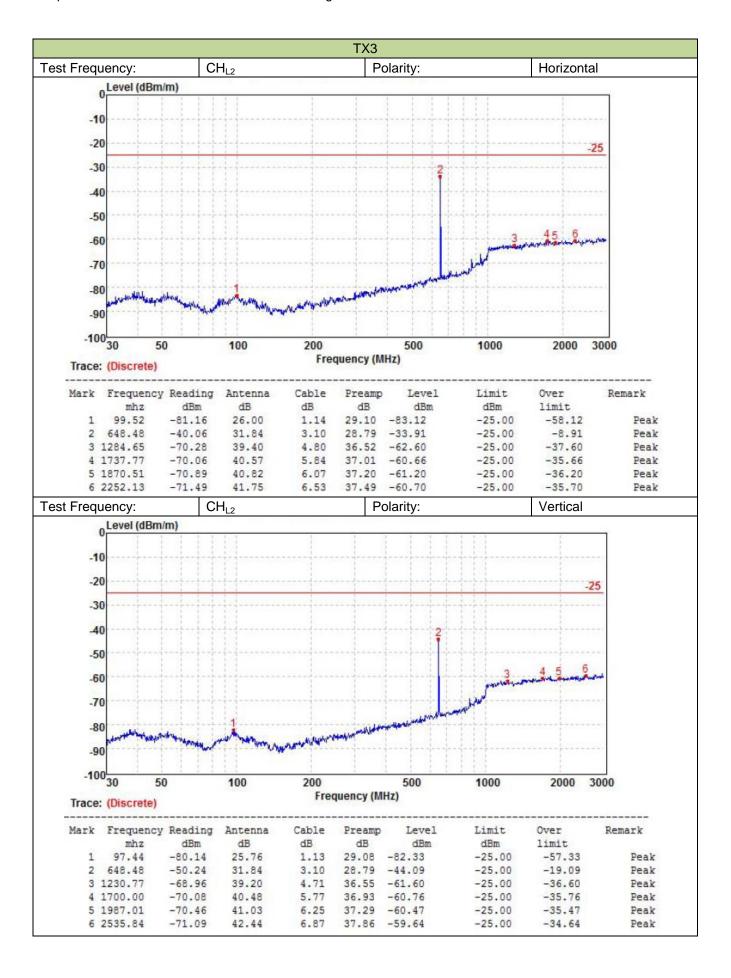
-38.85

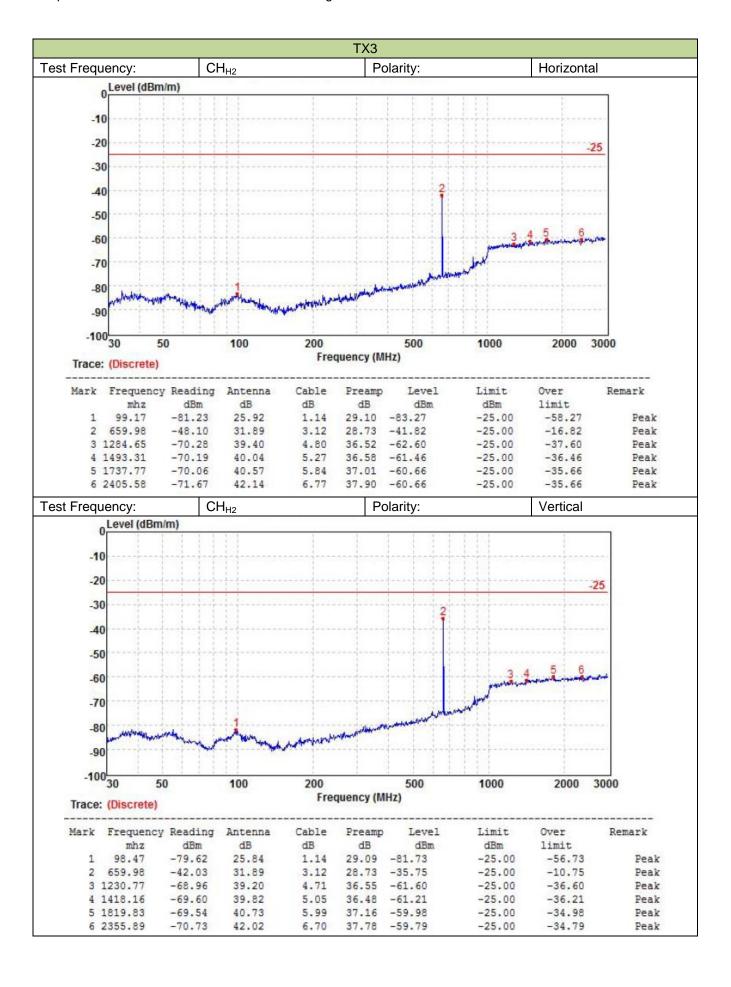
-37.72

-36.18

-35.63







5 1819.83 -69.54 40.73

6 2309.76 -70.66 41.90

5.99 37.16 -59.98

6.62 37.65 -59.79

Peak

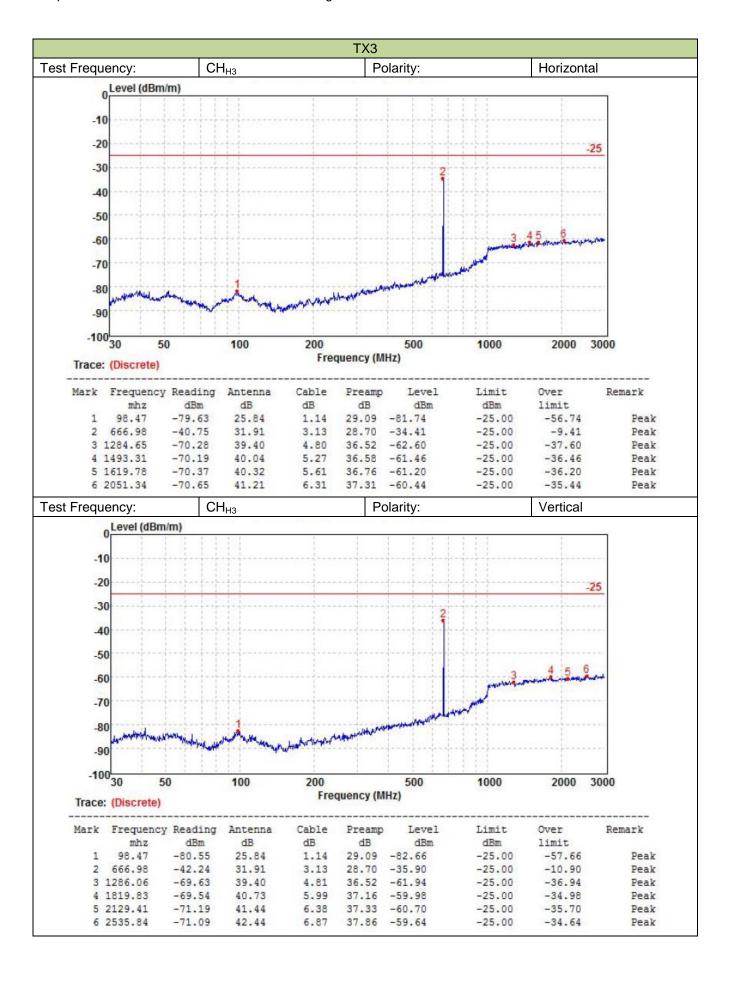
Peak

-34.98

-34.79

-25.00

-25.00



4 1591.56

5 1870.51

6 2355.89

-70.21

-70.89

-70.73

40.25

40.82

42.02

5.55

6.07

36.71 -61.12

37.20 -61.20

6.70 37.78 -59.79

-25.00

-25.00

-25.00

Report	Template	Version:	H00	(2016-0	08)
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Peak

Peak

Peak

-36.12

-36.20

-34.79

5.10. Conducted Emissions

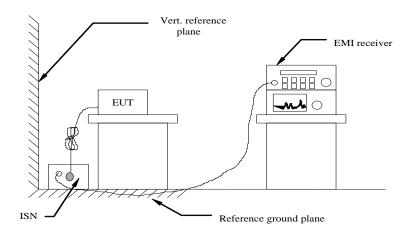
The frequency spectrum from 0.15 MHz to 30 MHz was investigated. The LISN used was 50 ohm / 50 u Henry as specified by section 5.1 of ANSI C63.4-2014. Cables and peripherals were moved to find the maximum emission levels for each frequency.

Limit

FCC part 15.107(a)

Frequency of Emission (MHz)	Conducted Limit (dBµV)		
	Quasi-peak	Average	
0.15-0.5	66 to 56 *	56 to 46 *	
0.5-5	56	46	
5-30	60	50	

TEST CONFIGURATION



TEST PROCEDURE

- 1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system; a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4-2014.
- 2 Support equipment, if needed, was placed as per ANSI C63.4-2014.
- 3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4-2014.
- 4 If a EUT received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5 All support equipments received AC power from a second LISN, if any
- The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7 Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 8 During the above scans, the emissions were maximized by cable manipulation.

TEST MODE:

Please reference to the section 3.4

TEST RESULTS

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5.11. Radiated Emission

LIMIT

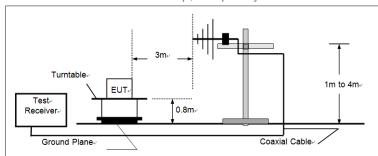
For unintentional device, according to § 15.109(a) except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Distance (Meters)	Radiated (dBµV/m)	Radiated (µV/m)
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

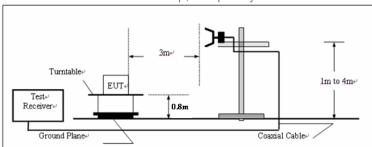
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

TEST CONFIGURATION

(A) Radiated Emission Test Set-Up, Frequency below 1000MHz



(B) Radiated Emission Test Set-Up, Frequency above 1000MHz



TEST PROCEDURE

- 1 The EUT was placed on a turn table which is 0.8m above ground plane.
- 2 Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0° to 360°C to acquire the highest emissions from EUT
- 3 And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 4 Repeat above procedures until all frequency measurements have been completed.

TEST MODE:

Please reference to the section 3.4

TEST RESULTS

Note:

- 1. The EUT shall be scanned from 30 MHz to the 5th harmonic of the highest oscillator frequency in the digital devices or 1 GHz whichever is higher.
- 2. Have pre-tested RX1 to RX3 mode, record the worst case mode RX1 on the report.

5

5809.85

7451.05

32.42

32.59

32.12 10.59

36.20 12.24

35.33

34.86

39.80

46.17

Peak

Peak

74.00 -34.20

74.00 -27.83

7743.31

31.33

36.10

13.11

35.04

45.50

74.00

Peak

6. Test Setup Photos of the EUT

Transmitter Radiated Spurious Emission:



Radiated Emission:





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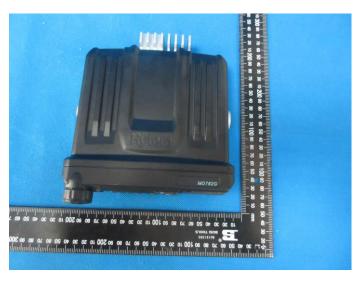
Frequency stability:



7. External and Internal Photos of the EUT External Photos of the EUT





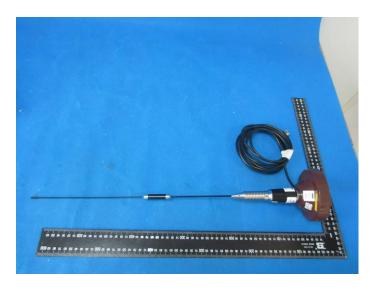






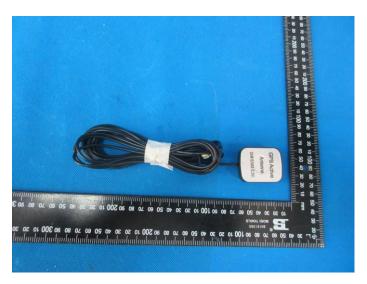












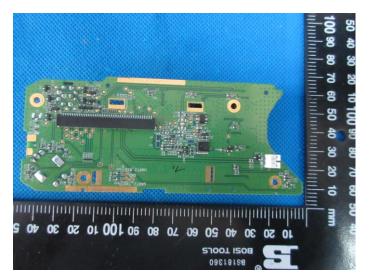
Internal Photos of the EUT



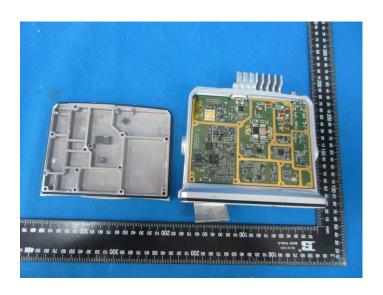




















-----End of Report-----