

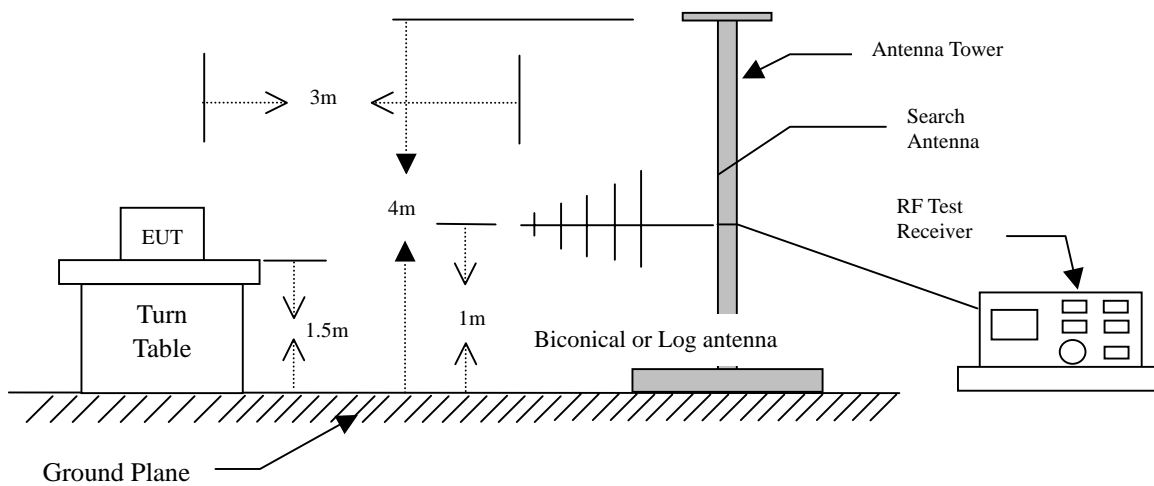
8 RF Radiated spurious emission test

8.1 Limits

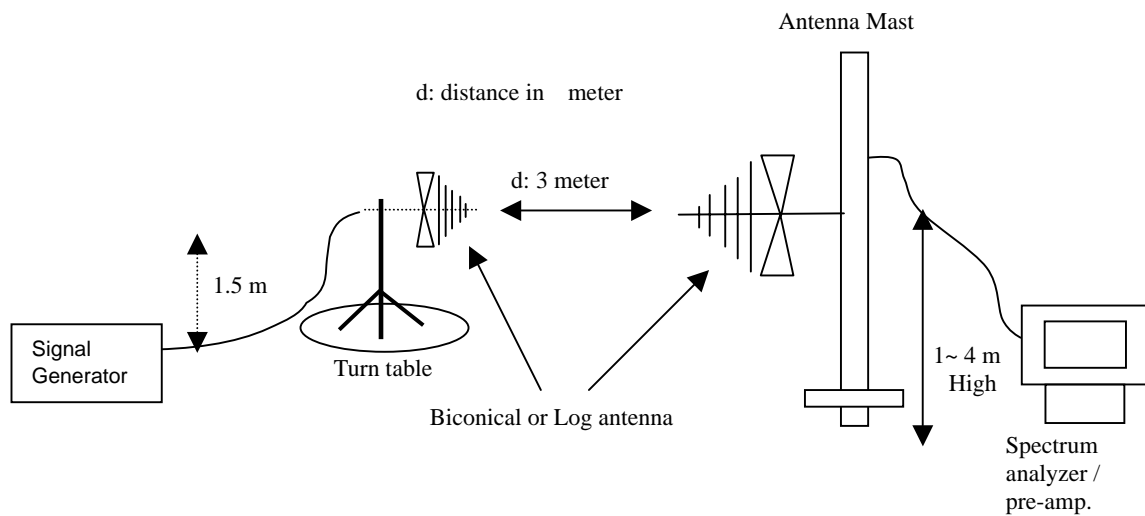
Operating Frequency (MHz)	Limit (dBm / MHz EIRP)
5150~5250	-27
5250~5350	-27
5725~5825	-27 (Subscriber transmit channel block is -17dBm/MHz on ± 10 MHz range)

8.2 Configuration of Measurement

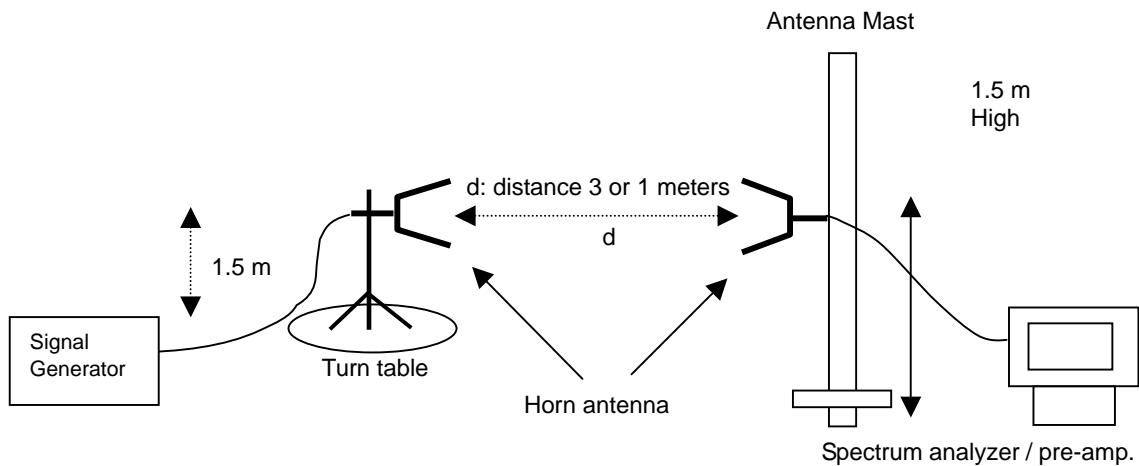
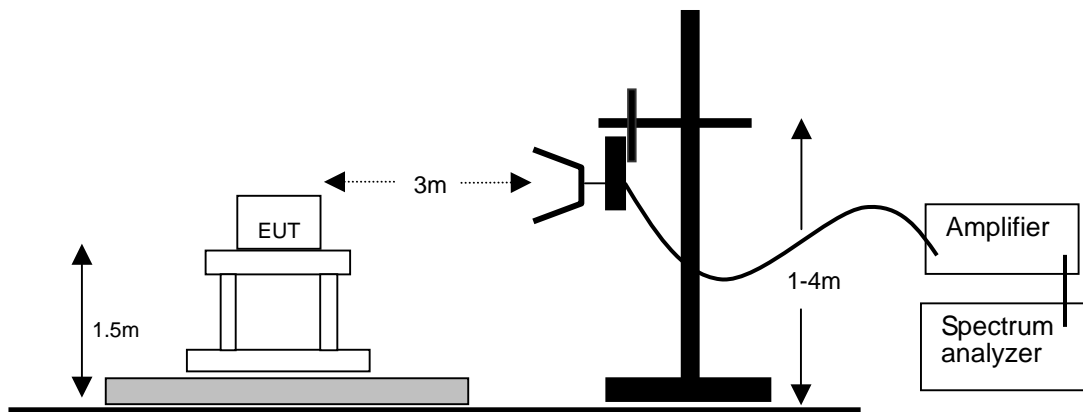
Frequency measurement below 1GHz configuration



Frequency measurement below 1GHz configuration



Frequency measurement above 1GHz configuration



8.3 Test Procedure

The maximum field strength of the spurious emission is measured at distance of 3 meter. The device under test replaced with a substitution antenna of known gain with respect to a Horn antenna. A calibrated signal source is used to feed the substitution antenna. The RF level to the substitution antenna is adjusted to repeat the previously measured field strength. The RF input level to the substitution antenna is the effective radiated power of the spurious emission after any correction for substitution antenna gain against a Horn antenna.

8.4 Test Result

PASS.

The final test data is shown on as following pages.

Undesirable emission above 1GHz (EIRP)

Single Tx

5150 ~ 5250MHz

802.11a Chain 0 CH36 5180MHz							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
10358	H	-40.09	5.92	10.60	-35.41	-27	-8.41
10360	V	-40.90	5.92	10.60	-36.22	-27	-9.22

802.11a Chain 0 CH44 5220MHz							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
10440	H	-41.12	5.92	10.60	-36.44	-27	-9.44
10440	V	-42.20	5.92	10.60	-37.52	-27	-10.52

802.11a Chain 0 CH48 5240MHz							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
10480	H	-37.37	12.54	11.50	-38.41	-27	-11.41
10480	V	-30.05	14.14	11.50	-32.69	-27	-5.69

Remark : EIRP = S/G Level-Cable Loss + Substitution Ant. Gain

Undesirable emission above 1GHz (EIRP)

Single Tx

5250 ~ 5350MHz

802.11a Chain 0 CH52							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
10520	H	-31.83	12.54	12.10	-32.27	-27	-5.27
10520	V	-29.73	12.54	12.10	-30.17	-27	-3.17

802.11a Chain 0 CH60							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
10600	H	-32.83	12.54	12.60	-32.77	-27	-5.77
10600	V	-33.57	12.54	12.60	-33.51	-27	-6.51

802.11a Chain 0 CH64							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
10640	H	-30.83	12.54	11.72	-31.65	-27	-4.65
10640	V	-33.20	12.54	11.72	-34.02	-27	-7.02

Remark : EIRP = S/G Level-Cable Loss + Substitution Ant. Gain

Undesirable emission above 1GHz (EIRP)

Dual Tx

5150 ~ 5250MHz

802.11n (HT20) CH36 5180MHz							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
6897	H	-49.73	8.85	12.35	-46.23	-27	-19.23
10360	H	-35.54	11.66	11.80	-35.40	-27	-8.40
6897	V	-50.76	8.85	12.35	-47.26	-27	-20.26
10360	V	-30.60	11.66	11.80	-30.46	-27	-3.46

802.11n (HT20) CH44 5220MHz							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
10440	H	-36.52	11.66	11.80	-36.38	-27	-9.38
10440	V	-29.77	11.66	11.80	-29.63	-27	-2.63

802.11n (HT20) CH48 5240MHz							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
6961	H	-49.51	8.94	11.70	-46.75	-27	-19.75
10480	H	-33.32	12.54	11.80	-34.06	-27	-7.06
6961	V	-49.98	8.94	11.70	-47.22	-27	-20.22
10480	V	-32.45	12.54	11.80	-33.19	-27	-6.19

Remark : EIRP = S/G Level-Cable Loss + Substitution Ant. Gain

Undesirable emission above 1GHz (EIRP)

Dual Tx

5250 ~ 5350MHz

802.11n (HT20) CH52 5260MHz							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
6993	H	-48.81	8.90	11.70	-46.01	-27	-19.01
10520	H	-33.66	12.54	11.80	-34.40	-27	-7.40
6993	V	-50.54	8.90	11.70	-47.74	-27	-20.74
10520	V	-30.19	12.54	11.80	-30.93	-27	-3.93

802.11n (HT20) CH60 5300MHz							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
7057	H	-45.28	8.90	11.70	-42.48	-27	-15.48
10600	H	-30.97	12.54	11.80	-31.71	-27	-4.71
7057	V	-46.18	8.90	11.70	-43.38	-27	-16.38
10600	V	-30.33	12.54	11.80	-31.07	-27	-4.07

802.11n (HT20) CH64 5320MHz							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
7089	H	-43.67	8.90	11.70	-40.87	-27	-13.87
10640	H	-29.46	12.54	11.80	-30.20	-27	-3.20
7089	V	-46.45	8.90	11.70	-43.65	-27	-16.65
10640	V	-30.76	12.54	11.80	-31.50	-27	-4.50

802.11n (HT40) CH38 5190MHz							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
6897	H	-47.74	8.90	11.70	-44.94	-27	-17.94
10380	H	-36.37	12.54	12.00	-36.91	-27	-9.91
6897	V	-48.30	8.90	11.70	-45.50	-27	-18.50
10380	V	-34.44	12.54	12.00	-34.98	-27	-7.98

802.11n (HT40) CH46 5230MHz							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
6961	H	-48.32	8.90	11.70	-45.52	-27	-18.52
10460	H	-33.38	12.54	12.10	-33.82	-27	-6.82
6961	V	-50.51	8.90	11.70	-47.71	-27	-20.71
10460	V	-34.35	12.54	12.10	-34.79	-27	-7.79

802.11n (HT40) CH54 5270MHz							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
7025	H	-47.74	8.90	11.70	-44.94	-27	-17.94
10540	H	-32.32	12.54	11.50	-33.36	-27	-6.36
7025	V	-48.40	8.90	11.70	-45.60	-27	-18.60
10540	V	-32.98	12.54	11.50	-34.02	-27	-7.02

802.11n (HT40) CH62 5310MHz							
Frequency	Antenna	SG Level	Cable Loss	Substitution Ant. Gain	EIRP	Limit	Margin
(MHz)	Polarization	(dBm)	(dB)	(dB)	(dBm)	(dBm)	(dB)
7057	H	-44.60	8.90	11.70	-41.80	-27	-14.80
10620	H	-30.64	12.54	11.50	-31.68	-27	-4.68
7057	V	-46.69	8.90	11.70	-43.89	-27	-16.89
10620	V	-32.43	12.54	11.50	-33.47	-27	-6.47

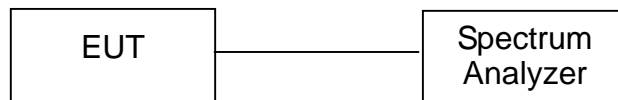
Remark : $EIRP = S/G \text{ Level} - \text{Cable Loss} + \text{Substitution Ant. Gain}$

9 RF antenna conducted spurious emission test

9.1 Limits

Operating Frequency (MHz)	Limit (dBm / MHz EIRP)
5150~5250	-27
5250~5350	-27
5725~5825	-27 (Subscriber transmit channel block -17dBm/MHz on ± 10 MHz range)

9.2 Configuration of Measurement



9.3 Test Procedure

The measurements were performed from 30MHz to 10th harmonic or 40GHz. RF antenna conducted per 15.407(b) was measured from the EUT antenna port.

9.4 Test Result

PASS.

The final test data is shown on as following pages.