



3.7 Frequency Stability

3.7.1 Frequency Stability Limit

Frequency Stability Limit

ι	UNII Devices						
	In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.						

IEEE Std. 802.11n-2009

The transmitter center frequency tolerance shall be \pm 20 ppm maximum for the 5 GHz band and \pm 25 ppm maximum for the 2.4 GHz band.

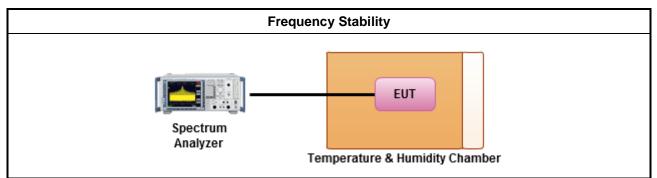
3.7.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.7.3 Test Procedures

	Test Method							
\square	Refer as ANSI C63.10, clause 6.8 for frequency stability tests							
	Frequency stability with respect to ambient temperature							
	\boxtimes	Frequency stability when varying supply voltage						
\square	For conducted measurement.							
	\boxtimes	For conducted measurements on devices with multiple transmit chains: Measurements need only to be performed on one of the active transmit chains (antenna outputs)						
		radiated measurement. The equipment to be measured and the test antenna shall be oriented to in the maximum emitted power level.						

3.7.4 Test Setup





Frequency Stability Result							
Мо	de	Frequency Stability (ppm)					
Condition	Freq. (MHz)	Test Frequency (MHz)	Frequency Stability (ppm)				
T _{20°C} Vmax	5300	5300.01320	2.4906				
$T_{20^\circ C}$ Vmin	5300	5300.01300	2.4528				
T _{50°C} Vnom	5300	5300.02560	4.8302				
$T_{40^{\circ}C}Vnom$	5300	5300.01560	2.9434				
T _{30°C} Vnom 5300 T _{20°C} Vnom 5300 T _{10°C} Vnom 5300 T _{0°C} Vnom 5300		5300.01380 5300.01320 5300.02160 5300.02780	2.6038 2.4906				
					4.0755		
			5.2453				
			T _{-10°C} Vnom	5300 5300.	5300.03420	6.4528	
T _{-20°C} Vnom	5300	5300.03680	6.9434				
Limit (ppm)		20					
Result		Complied					



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz ~ 2.75GHz	Mar. 26, 2014	AC Conduction
LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127-477	9kHz ~ 30MHz	Jan. 21, 2014	AC Conduction
RF Cable-CON	HUBER+SUHNER	RG213/U	0-7611832020001	9kHz ~ 30MHz	Oct. 30, 2013	AC Conduction
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	AC Conduction

Note: Calibration Interval of instruments listed above is one year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSV 40	101013	9KHz~40GHz	Jan. 25, 2014	RF Conducted
AC Power Source	G.W	APS-9102	EL920581	AC 0V ~ 300V	Jul. 15, 2014	RF Conducted
Temp. and Humidity Chamber	Giant Force	GTH-225-20-SP-SD	MAA1112-007	-20 ~ 100℃	Nov. 20, 2013	RF Conducted
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Jul. 31, 2014	RF Conducted

Note: Calibration Interval of instruments listed above is one year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz ~ 1GHz 3m	Nov. 30, 2013	Radiation
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	May 05, 2014	Radiation
Amplifier	Agilent	8449B	3008A02096	1GHz ~ 26.5GHz	Mar. 27, 2014	Radiation
Spectrum	R&S	FSP40	100004	9kHz ~ 40GHz	Mar. 27, 2014	Radiation
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30MHz ~ 1GHz	Sep. 21, 2013	Radiation
Horn Antenna	ETS · LINDGREN	3115	6741	1GHz ~ 18GHz	Jun. 11, 2014	Radiation
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15GHz ~ 40GHz	Jan. 10, 2014	Radiation
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	Nov. 16, 2013	Radiation
RF Cable-high	SUHNER	SUCOFLEX 106	03CH03-HY	1GHz ~ 40GHz	Dec. 11, 2013	Radiation
Turn Table	EM Electronics	EM Electronics	060615	0 ~ 360 degree	N/A	Radiation
Antenna Mast	MF	MF-7802	MF780208179	1 ~ 4 m	N/A	Radiation

Note: Calibration Interval of instruments listed above is one year.

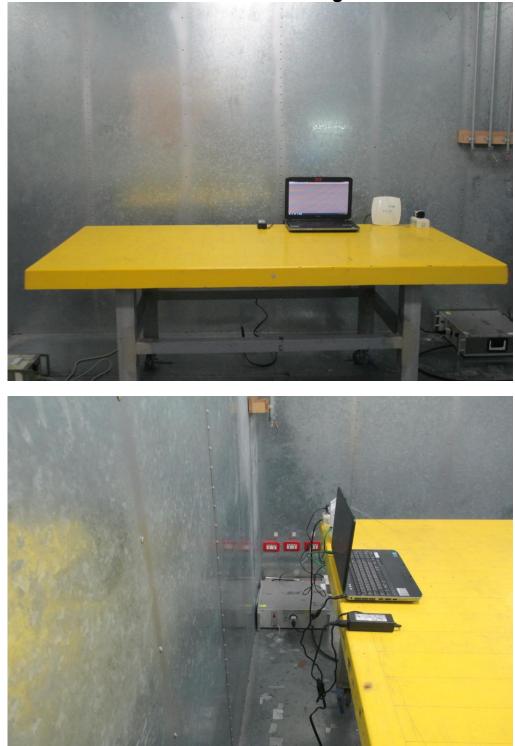
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Amplifier	EM	EM18G40G	060604	18GHz ~ 40GHz	Oct. 17.2013	Radiation
Loop Antenna	TESEQ	HLA 6120	31244	9kHz ~ 30MHz	Dec. 02, 2012	Radiation

Note: Calibration Interval of instruments listed above is two year.





Appendix A. Test Photos 1. Photographs of Conducted Emissions Test Configuration Mode 1



Front view

Rear view



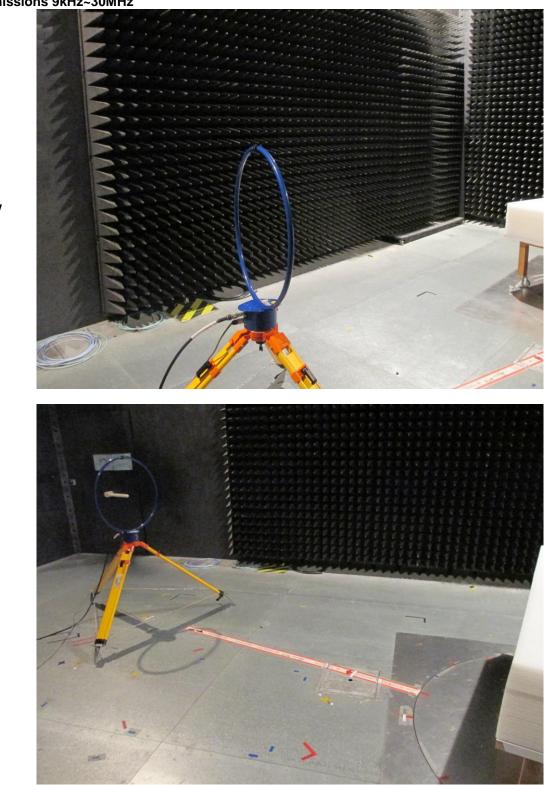
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Side view



2. Photographs of Radiated Emissions Test Configuration For radiated emissions 9kHz~30MHz

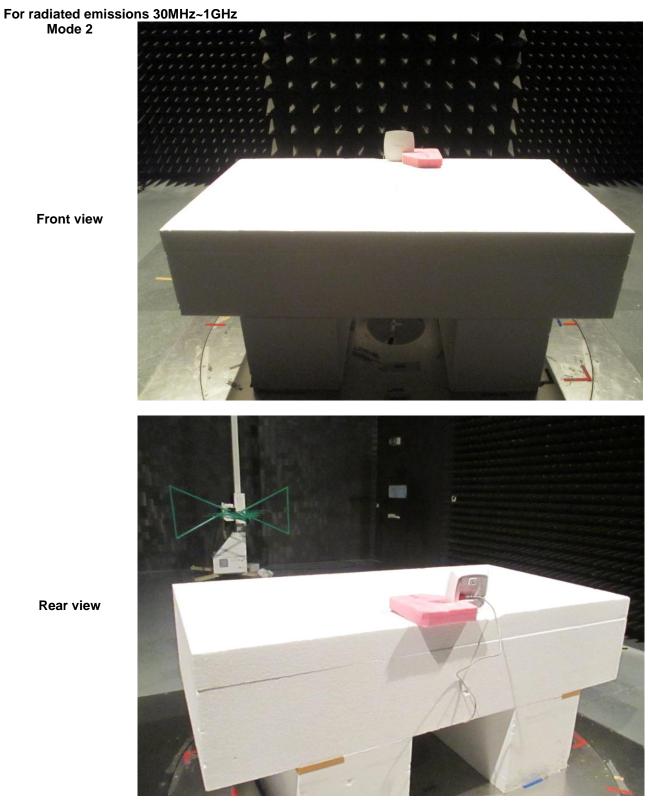


Front view

Rear view



FCC Test Report

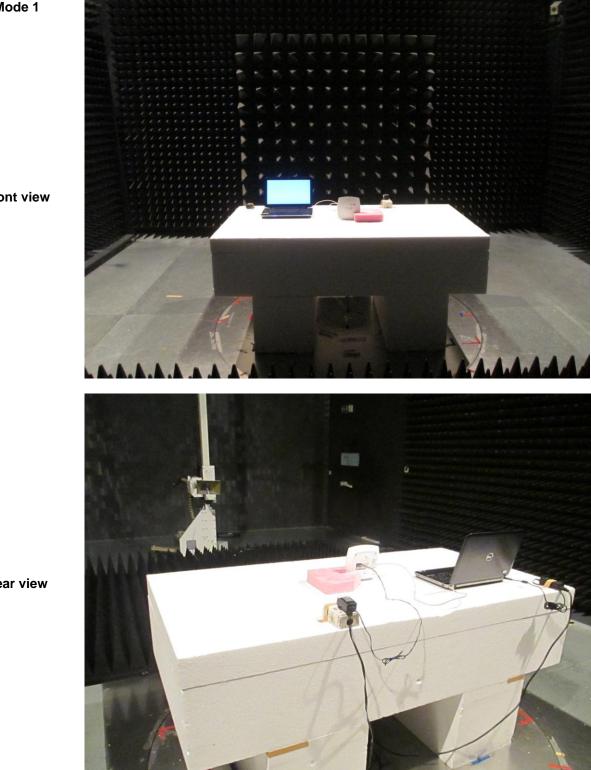




FCC Test Report

Report No. : FR441445-04AN

For radiated emissions above 1GHz Mode 1



Front view

Rear view