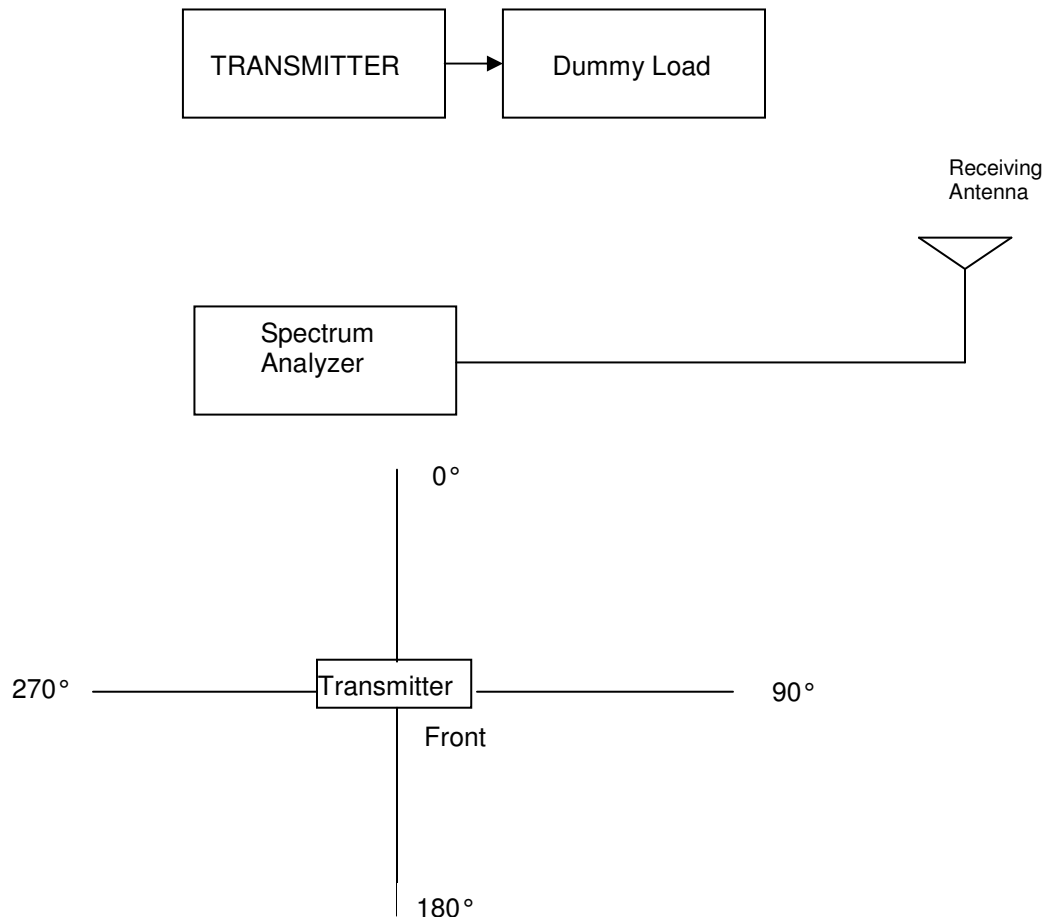


CABINET RADIATION EMISSION

The transmitter and test equipment are configured as shown below including the angles of measurement with respect to the transmitter cabinet. The transmitter is operated with a center frequency of 725 MHz at 200W average power into a dummy load and cabinet radiation measurements were taken at that channel. The free space path loss, cable loss and antenna gain characteristics are obtained at the fundamental frequency and at each of the harmonics up to the 10th harmonic of the center frequency in order to accurately assess the level of the signal radiated from the cabinet. The spectrum analyzer and receiving antenna are placed 10 meters away from the transmitter and dummy load with no obstructions in the path. Radiation from the cabinet was measured at a distance of ~10 meters in 4 different physical rotation angles: 0 (front), 90(left), 180(rear) and 270 (right) degrees with 0 degrees being the front of the cabinet by rotating the transmitter. The transmitter is energized and the spectrum analyzer is adjusted to search for the harmonic signal (or other spurious products). For each measurement made, the receiving antenna was rotated in polarization (between 0 degrees—totally Horizontal polarization and 90 degrees being totally vertical polarization) and adjusted for the maximum displayed signal on the spectrum analyzer. The level of the signal measured on the spectrum analyzer is recorded in the table in the column for “measured value”. For digital waveforms, the largest value in the frequency range of the harmonic on the display is where the center frequency of the spectrum analyzer is selected. Measurements were executed with the measurement bandwidth set at 100 KHz. All spectral components above the noise floor radiated from the cabinet were recorded. The values are tabulated in the table on the next pages following the test equipment configuration drawing. All results indicate satisfactory performance for the transmitter.



XMTR CABINET RADIATION SPREADSHEET

EUT:

Description:

SDT 501 UBC ARK 1T
Transmitter

TX Frequency (MHz):

725

Front View

Output Power (Wrms):

200

dBm

Value:

53

dBm

Corrected level must be less than:

-7

dBm

Distance (m):

10

Harmonic	Frequency	Measured	Cable	Antenna	Path	Corrected	Required	Status
	MHz	Level	Loss	Gain	Loss	Level	Level	Pass/Fail
Xmit freq.	725	-50	1	5	45.6	-9.5	-7.0	N/A
2 nd	1450,00	-60	1.3	6	52.1	-13.5	-7.0	PASS
3rd	2175,00	-66	1.6	6.5	55.5	-17.3	-7.0	PASS
4th	2900,00	-66	2	12	58	-20.2	-7.0	PASS
5th	3625,00	-65	2.2	12.5	60	-17.5	-7.0	PASS
6th	4350,00	-68	2.5	13	61.5	-19.4	-7.0	PASS
7th	5075,00	-68	2.8	14	62.9	-19	-7.0	PASS
8th	5800,00	-71	3.1	14.5	64	-21	-7.0	PASS
9th	6525,00	-73	3.4	15.6	65	-23	-7.0	PASS
10th	7250,00	-75	3.7	16	66	-25.3	-7.0	PASS

Left View

Harmonic	Frequency	Measured	Cable	Antenna	Path	Corrected	Required	Status
	MHz	Level	Loss	Gain	Loss	Level	Level	Pass/Fail
Xmit freq.	725	-53	1	5	45.6	-12.7	-7.0	N/A
2nd	1450,00	-63	1.3	6	52.1	-16.7	-7.0	PASS
3rd	2175,00	-70	1.6	6.5	55.5	-21.4	-7.0	PASS
4th	2900,00	-69	2	12	58	-23.2	-7.0	PASS
5th	3625,00	-72	2.2	12.5	60	-24.5	-7.0	PASS
6th	4350,00	-66	2.5	13	61.5	-17.4	-7.0	PASS
7th	5075,00	-72	2.8	14	62.9	-23.00	-7.0	PASS
8th	5800,00	-77	3.1	14.5	64	-27.5	-7.0	PASS
9th	6525,00	-81	3.4	15.6	65	-31.4	-7.0	PASS
10th	7250,00	-79	3.7	16	66	-28.5	-7.0	PASS

REAR View

Harmonic	Frequency	Measured	Cable	Antenna	Path	Corrected	Required	Status
	MHz	Level	Loss	Gain	Loss	Level	Level	Pass/Fail
Xmit freq.	725	-48	1	5	45.6	-7.5	-7.0	N/A
2nd	1450,00	-59	1.3	6	52.1	-12.4	-7.0	PASS
3rd	2175,00	-64	1.6	6.5	55.5	-15.4	-7.0	PASS
4th	2900,00	-64	2	12	58	-18.4	-7.0	PASS
5th	3625,00	-63	2.2	12.5	60	-15.4	-7.0	PASS
6th	4350,00	-70	2.5	13	61.5	-21.2	-7.0	PASS
7th	5075,00	-66	2.8	14	62.9	-17.5	-7.0	PASS
8th	5800,00	-73	3.1	14.5	64	-23.2	-7.0	PASS
9th	6525,00	-69	3.4	15.6	65	-19.5	-7.0	PASS
10th	7250,00	-76	3.7	16	66	-26.0	-7.0	PASS

RIGHT
View

Harmonic	Frequency	Measured	Cable	Antenna	Path	Corrected	Required	Status
	MHz	Level	Loss	Gain	Loss	Level	Level	Pass/Fail
Xmit freq.	725	-48	1	5	45.6	-7.5	-7.0	N/A
2nd	1450,00	-57	1.3	6	52.1	-10.7	-7.0	PASS
3rd	2175,00	-70	1.6	6.5	55.5	-21.4	-7.0	PASS
4th	2900,00	-69	2	12	58	-23.2	-7.0	PASS
5th	3625,00	-72	2.2	12.5	60	-24.5	-7.0	PASS
6th	4350,00	-66	2.5	13	61.5	-17.4	-7.0	PASS
7th	5075,00	-72	2.8	14	62.9	-23	-7.0	PASS
8th	5800,00	-77	3.1	14.5	64	-27.5	-7.0	PASS
9th	6525,00	-81	3.4	15.6	65	-31.4	-7.0	PASS
10th	7250,00	-73	3.7	16	66	-22.7	-7.0	PASS