

## Report on Test Measurements

## Adjacent Channel Coupled Power (ACCP) Requirements

ACCP Test Results for offset frequencies  $\leq 400$  kHz

ACCP Test Results: HPD Modulation, Pout = 50 Watts (avg), Channel Spacing = 25 kHz, Transmit Filter

FCC Requirements			Measurement Results					
Offset from Center Freq (kHz)	Measurement BW (kHz)	Maximum ACP (dBc)	764 MHz*		770 MHz		776 MHz	
			Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)	Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)	Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)
+/- 15.625	6.25	-40	-50.0	-50.7	-51.4	-51.5	-49.3	-49.9
+/- 21.875	6.25	-60	-69.9	-69.9	-69.6	-69.6	-69.1	-69.1
+/- 37.5	25	-60	-69.8	-70.4	-70.0	-70.1	-69.8	-69.8
+/- 62.5	25	-65	-70.5	-70.5	-70.2	-70.2	-68.8	-68.8
+/- 87.5	25	-65	-76.6	-76.7	-76.0	-76.4	-75.9	-75.9
+/- 150	100	-65	-73.0	-73.4	-72.7	-73.1	-72.6	-72.8
+/- 250	100	-65	-74.4	-75.5	-74.0	-74.9	-73.6	-74.6
+/- 350	100	-65	-77.5	-77.7	-77.2	-77.3	-76.9	-77.1
+/- 400	30 (swept)	-80	-83.9	-84.2	-83.6	-83.7	-82.9	-83.1

ACCP Test Results: LSM Modulation, Pout = 100 Watts (avg), Channel Spacing = 12.5 kHz, Transmit Filter

FCC Requirements			Measurement Results					
Offset from Center Freq (kHz)	Measurement BW (kHz)	Maximum ACP (dBc)	764 MHz*		770 MHz		776 MHz	
			Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)	Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)	Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)
+/- 9.375	6.25	-40	-42.8	-42.2	-42.8	-42.7	-42.5	-42.8
+/- 15.625	6.25	-60	-80.9	-80.0	-81.2	-80.7	-80.0	-80.1
+/- 21.875	6.25	-60	-84.7	-84.8	-84.3	-84.3	-84.1	-83.1
+/- 37.5	25	-60	-79.4	-79.1	-79.3	-78.8	-80.1	-78.7
+/- 62.5	25	-65	-82.9	-82.9	-83.1	-82.3	-83.5	-83.1
+/- 87.5	25	-65	-84.6	-84.2	-84.7	-84.3	-85.2	-84.8
+/- 150	100	-65	-86.8	-85.3	-86.9	-85.6	-87.7	-85.6
+/- 250	100	-65	-86.7	-83.6	-87.1	-83.8	-87.1	-84.9
+/- 350	100	-65	-91.9	-90.5	-92.3	-90.8	-93.0	-90.3
+/- 400	30 (swept)	-80	-98.0	-96.6	-98.9	-96.4	-98.7	-97.3

ACCP Test Results: C4FM Modulation, Pout = 100 Watts, Channel Spacing = 12.5 kHz, Transmit Filter

FCC Requirements			Measurement Results					
Offset from Center Freq (kHz)	Measurement BW (kHz)	Maximum ACP (dBc)	764 MHz*		770 MHz		776 MHz	
			Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)	Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)	Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)
+/- 9.375	6.25	-40	-41.9	-41.4	-41.8	-42.2	-42.5	-42.1
+/- 15.625	6.25	-60	-82.6	-83.1	-82.7	-82.4	-82.6	-81.9
+/- 21.875	6.25	-60	-85.2	-83.5	-84.2	-84.8	-83.7	-84.3
+/- 37.5	25	-60	-79.3	-78.6	-79.4	-78.9	-79.1	-79.0
+/- 62.5	25	-65	-83.4	-82.6	-82.7	-82.6	-83.7	-82.6
+/- 87.5	25	-65	-85.1	-83.7	-85.7	-84.1	-85.2	-84.0
+/- 150	100	-65	-87.6	-85.5	-87.5	-85.6	-87.2	-85.0
+/- 250	100	-65	-86.6	-83.5	-87.4	-83.4	-88.1	-83.5
+/- 350	100	-65	-92.9	-90.6	-92.4	-90.3	-92.8	-90.0
+/- 400	30 (swept)	-80	-98.8	-96.4	-98.8	-96.3	-98.7	-96.3

\* 764 MHz specification is covered by 27.53(d) and 90.543(b)

## Report on Test Measurements

## Adjacent Channel Coupled Power (ACCP) Requirements

TDMA - ACCP Test Results for offset frequencies  $\leq 400$  kHz

## ACCP Test Results: TDMA NOT APPLICABLE for HPD Modulation, Pout = 50 Watts (avg), Channel Spacing = 25 kHz, Transmit Filter

FCC Requirements			Measurement Results					
Offset from Center Freq (kHz)	Measurement BW (kHz)	Maximum ACP (dBc)	764 MHz*		770 MHz		776 MHz	
			Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)	Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)	Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)
+/- 15.625	6.25	-40						
+/- 21.875	6.25	-60						
+/- 37.5	25	-60						
+/- 62.5	25	-65						
+/- 87.5	25	-65						
+/- 150	100	-65						
+/- 250	100	-65						
+/- 350	100	-65						
+/- 400	30 (swept)	-80						

## ACCP Test Results: TDMA LSM Modulation, Pout = 100 Watts (avg), Channel Spacing = 12.5 kHz, Transmit Filter

FCC Requirements			Measurement Results					
Offset from Center Freq (kHz)	Measurement BW (kHz)	Maximum ACP (dBc)	764 MHz*		770 MHz		776 MHz	
			Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)	Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)	Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)
+/- 9.375	6.25	-40	-43.7	-43.5	-44.1	-44.0	-43.7	-43.4
+/- 15.625	6.25	-60	-79.4	-79.2	-79.2	-78.9	-79.1	-78.7
+/- 21.875	6.25	-60	-84.3	-83.5	-83.0	-83.2	-83.1	-83.0
+/- 37.5	25	-60	-79.1	-78.8	-78.8	-78.7	-78.6	-78.7
+/- 62.5	25	-65	-82.1	-80.9	-82.2	-81.0	-81.6	-81.4
+/- 87.5	25	-65	-83.8	-83.2	-83.1	-82.8	-83.3	-82.2
+/- 150	100	-65	-86.7	-85.0	-86.2	-84.2	-85.9	-84.3
+/- 250	100	-65	-86.4	-82.7	-85.9	-82.3	-85.2	-82.3
+/- 350	100	-65	-90.7	-89.3	-90.4	-88.7	-90.0	-88.5
+/- 400	30 (swept)	-80	-97.2	-96.4	-97.1	-95.4	-96.6	-95.5

## ACCP Test Results: TDMA C4FM Modulation, Pout = 100 Watts, Channel Spacing = 12.5 kHz, Transmit Filter

FCC Requirements			Measurement Results					
Offset from Center Freq (kHz)	Measurement BW (kHz)	Maximum ACP (dBc)	764 MHz*		770 MHz		776 MHz	
			Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)	Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)	Max ACP at low side offset freq (dBc)	Max ACP at high side offset freq (dBc)
+/- 9.375	6.25	-40	-42.4	-42.6	-41.1	-41.0	-41.0	-41.1
+/- 15.625	6.25	-60	-80.6	-81.1	-80.7	-80.4	-80.7	-80.6
+/- 21.875	6.25	-60	-84.4	-84.1	-83.7	-83.4	-83.2	-83.8
+/- 37.5	25	-60	-79.4	-78.8	-78.5	-78.9	-79.2	-78.4
+/- 62.5	25	-65	-82.7	-81.4	-82.2	-81.1	-81.9	-80.9
+/- 87.5	25	-65	-84.3	-82.8	-84.0	-82.4	-83.3	-82.1
+/- 150	100	-65	-87.0	-84.7	-86.3	-84.2	-85.6	-83.9
+/- 250	100	-65	-85.8	-82.8	-86.3	-82.1	-85.1	-82.0
+/- 350	100	-65	-91.4	-89.2	-91.1	-88.5	-90.8	-88.2
+/- 400	30 (swept)	-80	-96.7	-94.2	-94.8	-92.1	-96.2	-94.5

\* 764 MHz specification is covered by 27.53(d) and 90.543(b)

**Report on Test Measurements***Adjacent Channel Coupled Power (ACCP) Requirements*

*ACP measurement procedure:* For all measurements modulate the transmitter as it would be modulated in normal operating conditions. The ACP measurements may be made with a spectrum analyzer capable of making direct ACP measurements. "Measurement bandwidth", as used for non-swept measurements, implies an instrument that measures the power in many narrow bandwidths equal to the nominal resolution bandwidth and integrates these powers to determine the total power in the specified measurement bandwidth.

(1) *Setting reference level.* Set transmitter to maximum output power. Using a spectrum analyzer capable of ACP measurements, set the measurement bandwidth to the channel size. Set the frequency offset of the measurement bandwidth to zero and adjust the center frequency of the instrument to the assigned center frequency to measure the average power level of the transmitter. Record this power level in dBm as the "reference power level".

(2) *Non-swept power measurement.* Using a spectrum analyzer capable of ACP measurements, set the measurement bandwidth and frequency offset from the assigned center frequency as shown in the tables above. Any value of resolution bandwidth may be used as long as it does not exceed 2 percent of the specified measurement bandwidth. Measure the power level in dBm. These measurements should be made at maximum power. Calculate ACP by subtracting the reference power level measured in (b)(1) from the measurements made in this step. The absolute value of the calculated ACP must be greater than or equal to the absolute value of the ACP given in the table for each condition above.

(3) *Swept power measurement.* Set a spectrum analyzer to 30 kHz resolution bandwidth, 1 MHz video bandwidth and average, sample, or RMS detection. Set the reference level of the spectrum analyzer to the RMS value of the transmitter power. Sweep above and below the carrier frequency to the limits defined in the tables. Calculate ACP by subtracting the reference power level measured in (b)(1) from the measurements made in this step. The absolute value of the calculated ACP must be greater than or equal to the absolute value of the ACP given in the table for each condition above.

*Measurement results:*

For measurements less than or equal to 400 kHz offset from the center frequency, the ACCP results are shown in Tabular format. For measurements great than 400 kHz offset from the center frequency, the ACCP results are shown in Graphical format. The results shown are from testing performed using the worst case of the two transmit filtering alternatives.

All results show sufficient margin to the specified requirements.

**EXHIBIT DESCRIPTION**

- E1-2.1(page 1 of 2) ACCP Results – Offsets  $\leq$ 400 kHz for HPD, LSM, and C4FM Modes – Tabular Results \*
- E1-2.1 (page 2 of 2) TDMA ACCP Results – Offsets  $\leq$ 400 kHz for LSM, and C4FM Modes – Tabular Results \*\*
- E1-2.2 ACCP Results – Offsets  $>$ 400 kHz for HPD, LSM, C4FM at 764 MHz – Graphical Results (3 pages)
- E1-2.3 ACCP Results – Offsets  $>$ 400 kHz for HPD, LSM, C4FM at 770 MHz – Graphical Results (3 pages)
- E1-2.4 ACCP Results – Offsets  $>$ 400 kHz for HPD, LSM, C4FM at 776 MHz – Graphical Results (3 pages)

\* Data on file

\*\* Added per this action