

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934  
(Amendment No. )\*

NAME OF ISSUER: Harmonic Inc.

TITLE OF CLASS OF SECURITIES: Common Stock

CUSIP NUMBER: 413160102

DATE OF EVENT WHICH REQUIRES FILING OF THIS STATEMENT: December 31, 2010

Check the appropriate box to designate the rule pursuant to which this  
Schedule is filed:

- Rule 13d-1(b)  
 Rule 13d-1(c)  
 Rule 13d-1(d)

\*The remainder of this cover page shall be filled out for a reporting  
person's initial filing on this form with respect to the subject class  
of securities, and for any subsequent amendment containing information  
which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not  
be deemed to be 'filed' for the purpose of Section 18 of the Securities  
Exchange Act of 1934 ('Act') or otherwise subject to the liabilities of  
that section of the Act but shall be subject to all other provisions of  
the Act (however, see the Notes).

CUSIP NUMBER: 413160102

(1) Names of Reporting Persons The Bank of New York Mellon Corporation  
IRS Identification Nos. of Above Persons IRS No.13-2614959

(2) Check the Appropriate Box if a Member of a Group (See Instructions)  
(a) ( ) (b) ( )

(3) SEC use only

(4) Citizenship or Place of Organization New York

Number of Shares (5) Sole Voting Power 5,178,927  
Beneficially

Owned by Each (6) Shared Voting Power 0  
Reporting Person

With (7) Sole Dispositive Power 5,786,927

(8) Shared Dispositive Power 6,950

(9) Aggregate Amount Beneficially Owned  
by Each Reporting Person 5,793,877

(10) Check if the Aggregated Amount in Row (9) Excludes Certain  
Shares (see Instructions) ( )

(11) Percent of Class Represented by Amount in Row (9) 5.18%

(12) Type of Reporting Person (See Instructions) HC

SCHEDULE 13G

Item 1(a) Name of Issuer: Harmonic Inc.

Item 1(b) Address of Issuer's Principal Executive Office:  
4300 North First Street  
San Jose, CA 95134

Item 2(a) Name of Person Filing: The Bank of New York Mellon Corporation and any other reporting person(s) identified on the second part of the cover page(s) and Exhibit I

Item 2(b) Address of Principal Business Office, or if None, Residence: C/O The Bank of New York Mellon Corporation One Wall Street, 31st Floor New York, New York 10286 (for all reporting persons)

Item 2(c) Citizenship: See cover page and Exhibit I

Item 2(d) Title of Class of Securities: Common Stock

CUSIP Number 413160102

Item 3 See Item 12 of cover page(s) ("Type of Reporting Person ") for each reporting person.

Symbol Category

BD = Broker or Dealer registered under Section 15 of the Securities Exchange Act of 1934

BK = Bank as defined in Section 3(a)(6) of the Securities Exchange Act of 1934

IV = Investment Company registered under Section 8 of the Investment Company Act of 1940

IA = Investment Advisor registered under Section 203 of the Investment Advisors Act of 1940

EP = Employee Benefit Plan, Pension Fund which is subject to the provisions of the Employee Retirement Income Security Act of 1974 or Endowment Fund; see Section 240.13 - d(1)(b)(1)(ii)(F)

HC = Parent Holding Company, in accordance with Section 240.13-d(1)(b)(1)(ii)(G)

Item 4 Ownership: See Item 5 through 9 and 11 of cover page(s) as to each reporting person.

The amount beneficially owned includes, where appropriate, securities not outstanding which are subject to options, warrants, rights or conversion privileges that are exercisable within 60 days. The securities reported herein as beneficially owned may exclude securities of the issuer with respect to which voting and/or dispositive power is exercised by subsidiaries of The Bank of New York Mellon Corporation, or departments or units thereof, independently from the exercise of those powers over the securities reported herein. See SEC Release No. 34-39538 (January 12, 1998). The filing of this Schedule 13G shall not be construed as an admission that The Bank of New York Mellon Corporation, or its direct or indirect subsidiaries, including The Bank of New York Mellon and BNY Mellon, National Association, are for the purposes of Section 13(d) or 13(g) of the Act, the beneficial owners of any securities covered by this Schedule 13G.

The following information applies if checked: ( ) The Bank of New York Mellon and/or ( ) The Bank of New York Mellon Trust Company, National Association is/are the trustee of the issuer's employee benefit plan (the Plan), which is subject to ERISA. The securities reported include all shares held of record by such reporting person(s) as trustee of the Plan which have not been allocated to the individual accounts of employee participants in the Plan. The reporting person, however, disclaims beneficial ownership of all shares that have been allocated to the individual accounts of employee participants in the Plan for which directions have been received and followed.

Item 5 Ownership of Five Percent or Less of a Class:

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following ( )

Item 6 Ownership of More than Five Percent on Behalf of Another Person:

All of the securities are beneficially owned by The Bank of New York Mellon Corporation and its direct or indirect subsidiaries in their various fiduciary capacities. As a result, another entity in every instance is entitled to dividends or proceeds of sale. The number of individual accounts holding an interest of 5% or more is ( )

Item 7 Identification and Classification of the Subsidiary Which Acquired the Security Being Reported by the Parent Holding Company:  
See Exhibit I.

Item 8 Identification and Classification of Members of the Group: N/A

Item 9 Notice of Dissolution of Group: N/A

Item 10 Certification:

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and were not acquired and are not held for the purpose of and do not have the effect of changing or influencing the control of the issuer of such securities and were not acquired and are not held in connection with or as a participant in any transaction having such purpose or effect.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct. This filing is signed by The Bank of New York Mellon Corporation on behalf of all reporting entities pursuant to Rule 13d-1(k)(1) promulgated under the Securities and Exchange Act of 1934, as amended.

Date: February 03, 2011

THE BANK OF NEW YORK MELLON CORPORATION

By: /s/ NICHOLAS R. DARROW

-----  
Nicholas R. Darrow  
Senior Vice President  
Attorney-In-Fact for  
The Bank of New York Mellon Corporation

EXHIBIT I

The shares reported on the attached Schedule 13G are beneficially owned by the following direct or indirect subsidiaries of The Bank of New York Mellon Corporation, as marked (X):

(A) The Item 3 classification of each of the subsidiaries listed below is "Item 3(b) bank as defined in Section 3(a)(6) of the Act (15 U.S.C. 78c) or Section 240.13d-1(b)(1)(ii)(J) "

- (X) The Bank of New York Mellon
- (X) The Bank of New York Mellon Trust Company, National Association
- (X) BNY Mellon, National Association
- ( ) BNY Mellon Trust of Delaware

(B) The Item 3 classification of each of the subsidiaries listed below is "Item 3(e) an investment adviser in accordance with Section 240.13d-1(b)(1)(ii)(E) or Section 240.13d-1(b)(1)(ii)(J) "

- ( ) Blackfriars Asset Management Limited
- ( ) BNY Mellon ARX Investimentos Ltda (parent holding company of BNY Mellon ARX Ativos Financeiros Ltda)
- (X) The Boston Company Asset Management LLC
- (X) The Dreyfus Corporation (parent holding company of MBSC Securities Corporation)
- ( ) Insight Investment Management (Global) Limited
- (X) Lockwood Advisors, Inc.

- (X) Mellon Capital Management Corporation
  - ( ) Newton Capital Management Limited
  - ( ) Newton Investment Management Limited
  - ( ) Standish Mellon Asset Management Company LLC
  - ( ) Urdang Securities Management, Inc.
  - ( ) Urdang Capital Management, Inc.
  - ( ) Walter Scott & Partners Limited
- (C) The Item 3 classification of each of the subsidiaries listed below is "Item 3(a) broker or dealer registered under Section 15 of the ACT (15 U.S.C. 78c) or Section 240.13d-1(b) (1) (ii) (B) "
- ( ) MBSC Securities Corporation
  - ( ) Pershing LLC
- (D) The Item 3 classification of each of the subsidiaries listed below is "Item 3(g) a parent holding company or control person in accordance with Section 240.13d-1(b) (1) (ii) (G) "
- (X) The Bank of New York Mellon Corporation
  - ( ) B.N.Y. Holdings (Delaware) Corporation (parent holding company of BNY Mellon Trust of Delaware)
  - (X) BNY Separate Account Services, Inc. (parent holding company of Lockwood Advisors, Inc.)
  - ( ) Insight Investment Management Limited (parent holding company of Insight Investment Management (Global) Limited)
  - (X) MAM (MA) Holding Trust (parent holding company of Standish Mellon Asset Management Company LLC; The Boston Company Asset Management LLC)
  - (X) MBC Investments Corporation (parent holding company of Mellon Capital Management Corporation; Neptune LLC)
  - ( ) Mellon International Holdings S.A.R.L. (parent holding company of BNY Mellon International Asset Management Group Limited)
  - ( ) BNY Mellon International Asset Management Group Limited (parent holding company of Newton Management Limited; Walter Scott & Partners Limited)
  - ( ) BNY Mellon Asset Management International Holdings Limited (parent holding company of Ankura Capital Pty Limited and BNY Mellon Asset Management Japan Limited)
  - ( ) Mellon Overseas Investment Corporation (parent holding company to BNY Mellon Servicos Financeiros Distribuidora de Titulos e Valores Mobiliarios S.A. and (indirect) BNY Mellon Gestao de Patrimonio Ltda)
  - ( ) Neptune LLC (parent holding company of Mellon International Holdings S.A.R.L.)
  - ( ) Newton Management Limited (parent holding company of Newton Capital Management Limited; Newton Investment Management Limited)
  - (X) Pershing Group LLC (parent holding company of BNY Separate Account Services, Inc. and Pershing LLC)
  - ( ) The Bank of New York Mellon SA/NV (parent holding company of BNY Mellon Service Kapitalanlage-Gesellschaft mbH)

NOTE: ALL OF THE LEGAL ENTITIES LISTED UNDER (A) AND (B) ABOVE ARE DIRECT OR INDIRECT SUBSIDIARIES OF THE BANK OF NEW YORK MELLON CORPORATION. BENEFICIAL OWNERSHIP OF MORE THAN FIVE PERCENT OF THE CLASS BY ANY ONE OF THE SUBSIDIARIES OR INTERMEDIATE PARENT HOLDING COMPANIES LISTED ABOVE IS REPORTED ON A JOINT REPORTING PERSON PAGE FOR THAT SUBSIDIARY ON THE ATTACHED SCHEDULE 13G AND IS INCORPORATED IN THE TOTAL PERCENT OF CLASS REPORTED ON THE BANK OF NEW YORK MELLON CORPORATION'S REPORTING PERSON PAGE. (DO NOT ADD THE SHARES OR PERCENT OF CLASS REPORTED ON EACH JOINT REPORTING PERSON PAGE ON THE ATTACHED SCHEDULE 13G TO DETERMINE THE TOTAL PERCENT OF CLASS FOR THE BANK OF NEW YORK MELLON CORPORATION).

#### POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS that each of the undersigned (each a "Company") does hereby make, constitute and appoint each of Kenneth J. Bradle, Sri Gupta, John E. Thomas, Jr., Nicholas R. Darrow, (and any other employee of The Bank of New York Mellon Corporation, or one of its affiliates, designated in writing by one of the attorneys-in-fact), acting individually, its true and lawful attorney, to execute and deliver in its name and on its behalf, whether the Company is acting

individually or as representative of others, any and all filings, be they written or oral, required to be made by the Company with respect to securities which may be deemed to be beneficially owned by the Company or under the Company's investment discretion under:

\*the Securities Exchange Act of 1934, as amended (the "Exchange Act"), including those filings required to be submitted on Form 13F, Schedule 13G and Form SH, and

\*the laws of any jurisdiction other than the United States of America, including those filings made to disclose securities holdings as required to be submitted to regulatory agencies, exchanges and/or issuers,

giving and granting unto each said attorney-in-fact power and authority to correspond with issuers, regulatory authorities, and other entities as is required in support of the filings referenced above, and to act in the premises as fully and to all intents and purposes as the Company might or could do to comply with the applicable regulations if personally present by one of its authorized signatories (including, but not limited to, instructing local counsel on a Company's behalf), hereby ratifying and confirming all that said attorney-in-fact shall lawfully do or cause to be done by virtue hereof.

THIS POWER OF ATTORNEY shall remain in full force and effect until either revoked in writing by the Company or until such time as the person or persons to whom power of attorney has been hereby granted cease(s) to be an employee of The Bank of New York Mellon Corporation or one of its affiliates.

This Power of Attorney may be executed in any number of counterparts all of which taken together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the undersigned hereby execute this Agreement effective as of the date set forth below.

-----  
| Banks/Bank Holding Companies |  
-----

THE BANK OF NEW YORK MELLON CORPORATION

BNY MELLON, NATIONAL ASSOCIATION

By: /S/ RONALD P. O'HANLEY

By: /S/ GERALD L. HASSELL

-----  
Ronald P. O'Hanley  
Vice Chairman

-----  
Gerald L. Hassell  
President

Date: October 12, 2009

Date: October 12, 2009

THE BANK OF NEW YORK MELLON

THE BANK OF NEW YORK MELLON

By: /S/ GERALD L. HASSELL

By: /S/ DONALD R. MONKS

-----  
Gerald L. Hassell  
President

-----  
Donald R. Monks  
Vice Chairman

Date: October 12, 2009

Date: October 12, 2009

THE BANK OF NEW YORK MELLON TRUST COMPANY, NATIONAL ASSOCIATION

THE BANK OF NEW YORK MELLON TRUST COMPANY, NATIONAL ASSOCIATION

By: /S/ KAREN A. BAYZ

By: /S/ JOHN A. PARK

-----  
Karen A. Bayz  
Managing Director and  
Chief Financial Officer

-----  
John A. Park  
Executive Vice President

Date: October 13, 2009

Date: October 9, 2009

BNY MELLON TRUST OF DELAWARE

BNY MELLON TRUST OF DELAWARE

By: /S/ DAVID B. KUTCH

By: /S/ DONALD R. MONKS

-----  
David B. Kutch  
Chairman and  
Chief Executive Officer

-----  
Donald R. Monks  
Senior Executive Vice President

Date: October 12, 2009

Date: October 12, 2009

-----  
| Investment Advisers and/or Broker-Dealers |  
-----

ANKURA CAPITAL PTY LIMITED

By: /S/ GREG VAUGHN

-----  
Greg Vaughn  
Managing Director

Date: October 8, 2009

PERSHING LLC

By: /S/ GARY JOHNSON

-----  
Gary Johnson  
Managing Director

Date: December 10, 2010

BLACKFRIARS ASSET MANAGEMENT LIMITED

By: /S/ HUGH HUNTER

-----  
Hugh Hunter  
Chief Executive Officer

Date: October 7, 2009

BLACKFRIARS ASSET MANAGEMENT LIMITED

By: /S/ MOHAMMED BHATTI

-----  
Mohammed Bhatti  
Director and Chief Operating  
Officer

Date: October 7, 2009

BNY MELLON ARX INVESTIMENTOS LTDA

By: /S/ JOSE CARLOS LOPES XAVIER  
DE OLIVEIRA

-----  
Jose Carlos Lopes Xavier De Oliveira  
Chief Executive Officer

Date: January 4, 2010

BNY MELLON ARX INVESTIMENTOS LTDA

By: /S/ MARCELO PERIERA DA SILVA

-----  
Marcelo Periera da Silva  
Chief Financial Officer

Date: January 4, 2010

BNY MELLON SERVICOS FINANCEIROS  
DISTRIBUIDORA DE TITULOS E VALORES  
MOBILIARIOS S.A

By: /S/ JOSE CARLOS LOPES XAVIER  
DE OLIVEIRA

-----  
Jose Carlos Lopes Xavier De Oliveira  
Chief Executive Officer

Date: January 4, 2010

BNY MELLON SERVICOS FINANCEIROS  
DISTRIBUIDORA DE TITULOS E VALORES  
MOBILIARIOS S.A

By: /S/ MARCELO PERIERA DA SILVA

-----  
Marcelo Periera da Silva  
Chief Financial Officer

Date: January 4, 2010

BNY MELLON ARX ATIVOS FINANCEIROS  
LTDA

By: /S/ JOSE CARLOS LOPES XAVIER  
DE OLIVEIRA

-----  
Jose Carlos Lopes Xavier De Oliveira  
Chief Executive Officer

Date: January 4, 2010

BNY MELLON ARX ATIVOS FINANCEIROS  
LTDA

By: /S/ MARCELO PERIERA DA SILVA

-----  
Marcelo Periera da Silva  
Chief Financial Officer

Date: January 4, 2010

BNY MELLON GESTAO DE PATRIMONIO LTDA

By: /S/ JOSE CARLOS LOPES XAVIER  
DE OLIVEIRA

-----  
Jose Carlos Lopes Xavier De Oliveira  
Chief Executive Officer

Date: January 4, 2010

BNY MELLON GESTAO DE PATRIMONIO LTDA

By: /S/ MARCELO PERIERA DA SILVA

-----  
Marcelo Periera da Silva  
Chief Financial Officer

Date: January 4, 2010

THE BOSTON COMPANY ASSET MANAGEMENT  
LLC

By: /S/ DAVE CAMERON

-----  
Dave Cameron  
Chairman, President and

THE BOSTON COMPANY ASSET MANAGEMENT  
LLC

By: /S/ JOSEPH P. GENNACO

-----  
Joseph P. Gennaco  
Executive Vice President

Chief Executive Officer  
Date: October 12, 2009

and Chief Operating Officer  
Date: October 12, 2009

BNY MELLON ASSET MANAGEMENT JAPAN  
LIMITED

BNY MELLON ASSET MANAGEMENT JAPAN  
LIMITED

By: /S/ SHOGO YAMAGUCHI  
-----  
Shogo Yamaguchi  
President and  
Representative Director  
Date: December 29,2009

By: /S/ DAVID JIANG  
-----  
David Jiang  
Chairman and  
Representative Director  
Date: December 29,2009

THE DREYFUS CORPORATION

INSIGHT INVESTMENT (Global)  
MANAGEMENT LIMITED

By: /S/ JAMES BITETTO  
-----  
James Bitetto  
Corporate Secretary  
Date: October 7, 2009

By: /s/ CHARLES FARQUHARSON  
-----  
Charles Farquharson  
Chief Risk Officer  
Date: December 04, 2009

LOCKWOOD ADVISORS, INC.

By: /S/ DON MARCHESIELLO  
-----  
Don Marchesiello  
President  
Date: October 6, 2009

MELLON CAPITAL MANAGEMENT  
CORPORATION

MBSC SECURITIES CORPORATION

By: /S/ CHARLES J. JACKLIN  
-----  
Charles J. Jacklin  
President and CEO  
Date: October 8, 2009

By: /S/ KENNETH J. BRADLE  
-----  
Kenneth J. Bradle  
President  
Date: October 28, 2009

NEWTON INVESTMENT MANAGEMENT LIMITED

NEWTON CAPITAL MANAGEMENT LIMITED

By: /S/ ANDREW DOWNS  
-----  
Andrew Downs  
Chief Operating Officer  
Date: November 6, 2009

By: /S/ ANDREW DOWNS  
-----  
Andrew Downs  
Chief Operating Officer  
Date: November 6, 2009

STANDISH MELLON ASSET MANAGEMENT  
COMPANY LLC

PERSHING GROUP LLC

By: /S/ DESMOND MAC INTYRE  
-----  
Desmond Mac Intyre  
President and CEO  
Date: November 19, 2009

By: /S/ BRIAN T. SHEA  
-----  
Brian T. Shea  
Managing Director  
Date: October 9, 2009

URDANG CAPITAL MANAGEMENT, INC.

URDANG CAPITAL MANAGEMENT, INC.

By: /S/ RICHARD J. FERST  
-----  
Richard J. Ferst  
President and  
Chief Operating Officer  
Date: October 15, 2009

By: /S/ E. TODD BRIDDELL  
-----  
E. Todd Briddell  
Managing Director and  
Chief Investment Officer  
Date: October 15, 2009

URDANG SECURITIES MANAGEMENT, INC.

URDANG SECURITIES MANAGEMENT, INC.

By: /S/ E. TODD BRIDDELL  
-----  
E. Todd Briddell  
Managing Director  
and Chief Investment Officer  
Date: October 15, 2009

By: /S/ RICHARD J. FERST  
-----  
Richard J. Ferst  
President and  
Chief Operating Office  
Date: October 15, 2009

WALTER SCOTT & PARTNERS LIMITED

WALTER SCOTT & PARTNERS LIMITED

By: /S/ ANNA NICHOLL  
-----  
Anna Nicholl  
Chief Compliance Officer  
Date: October 8, 2009

By: /S/ CAROL-ANN FRASER  
-----  
Carol-Ann Fraser  
Compliance Officer  
Date: October 8, 2009

-----  
| Parent Holding Companies/Control Persons |  
-----

B.N.Y. HOLDINGS (DELAWARE) CORPORATION

BNY SEPARATE ACCOUNT SERVICES, INC.

By: /S/ JOHN A. PARK  
-----  
John A. Park  
Senior Vice President  
Date: October 9, 2009

By: /S/ BRIAN T. SHEA  
-----  
Brian T. Shea  
Chairman  
Date: October 9, 2009

BNY MELLON ASSET MANAGEMENT  
INTERNATIONAL HOLDINGS LIMITED

BNY MELLON ASSET MANAGEMENT  
INTERNATIONAL HOLDINGS LIMITED

By: /S/ GREG BRISK  
-----  
Greg Brisk  
Director  
Date: October 12, 2009

By: /S/ SHONA SPENCE  
-----  
Shona Spence  
Director  
Date: October 15, 2009

BNY MELLON INTERNATIONAL ASSET  
MANAGEMENT GROUP LIMITED

NEPTUNE LLC

By: /S/ JEREMY N. BASSIL  
-----  
Jeremy N. Bassil  
Director  
Date: October 13, 2009

By: /S/ JEREMY N. BASSIL  
-----  
Jeremy N. Bassil  
Management Committee Member  
Date: October 13, 2009

MAM (MA) HOLDING TRUST

MBC INVESTMENTS CORPORATION

By: /S/ RONALD P. O'HANLEY  
-----  
Ronald P. O'Hanley  
President  
Date: October 9, 2009

By: /S/ GORDON MOTTER  
-----  
Gordon Motter  
Chairman, President and CEO  
Date: October 9, 2009

MELLON INTERNATIONAL HOLDINGS  
S.A.R.L.

MELLON INTERNATIONAL HOLDINGS  
S.A.R.L.

By: /S/ JON LITTLE  
-----  
Jon Little  
Manager  
Date: October 9, 2009

By: /S/ EDWARD KEMP  
-----  
Edward Kemp  
Director  
Date: October 16, 2009

NEWTON MANAGEMENT LIMITED

NEWTON MANAGEMENT LIMITED

By: /S/ HELENA MORRISSEY  
-----  
Helena Morrissey  
Director

By: /S/ ANDREW DOWNS  
-----  
Andrew Downs  
Director



Date: October 15, 2009

Date: November 6, 2009

MELLON OVERSEAS INVESTMENT CORPORATION

INSIGHT INVESTMENT MANAGEMENT LIMITED

By: /S/ JON LITTLE  
-----  
Jon Little  
Chairman, President And  
Chief Executive Officer  
Date: December 04, 2009

By: /S/ CHARLES FARQUHARSON  
-----  
Charles Farquharson  
Chief Risk Officer  
Date: December 04, 2009

BNY INTERNATIONAL FINANCING CORPORATION

THE BANK OF NEW YORK MELLON SA/NV

By: /S/ FRED RICCIARDI  
-----  
Fred Ricciardi  
President  
Date: August 30, 2010

By: /S/ JEAN-CHRISTOPHE MATHONET  
-----  
Jean-Christophe Mathonet  
Managing Director  
Date: October 4, 2010

-----  
| Fund Administrators |  
-----

BNY MELLON SERVICE KAPITALANLAGE-GESELLSCHAFT mbH

By: /S/ CAROLINE SPECHT  
-----  
Caroline Specht  
Managing Director, Head of  
Business Strategy and Legal  
Date: August 24, 2010

JOINT FILING AGREEMENT

In accordance with Rule 13d-1(k)(1) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), the undersigned hereby agree to any and all joint filings required to be made on their behalf on Schedule 13G (including amendments thereto) under the Exchange Act, with respect to securities which may be deemed to be beneficially owned by them under the Exchange Act, and that this Agreement be included as an Exhibit to any such joint filing. This Agreement may be executed in any number of counterparts all of which taken together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the undersigned hereby execute this Agreement effective as of the date set forth below.

-----  
| Banks/Bank Holding Companies |  
-----

THE BANK OF NEW YORK MELLON CORPORATION

BNY MELLON, NATIONAL ASSOCIATION

By: /S/ RONALD P. O'HANLEY  
-----  
Ronald P. O'Hanley  
Vice Chairman  
Date: October 09, 2009

By: /S/ GERALD L. HASSELL  
-----  
Gerald L. Hassell  
President  
Date: October 12, 2009

THE BANK OF NEW YORK MELLON

THE BANK OF NEW YORK MELLON

By: /S/ GERALD L. HASSELL  
-----  
Gerald L. Hassell

By: /S/ DONALD R. MONKS  
-----  
Donald R. Monks

President  
Date: October 12, 2009

Vice Chairman  
Date: October 12, 2009

THE BANK OF NEW YORK MELLON TRUST  
COMPANY, NATIONAL ASSOCIATION

THE BANK OF NEW YORK MELLON TRUST  
COMPANY, NATIONAL ASSOCIATION

By: /S/ KAREN A. BAYZ  
-----  
Karen A. Bayz  
Managing Director and  
Chief Financial Officer  
Date: October 13, 2009

By: /S/ JOHN A. PARK  
-----  
John A. Park  
Executive Vice President  
Date: October 9, 2009

BNY MELLON TRUST OF DELAWARE

BNY MELLON TRUST OF DELAWARE

By: /S/ DAVID B. KUTCH  
-----  
David B. Kutch  
Chairman and  
Chief Executive Officer  
Date: October 12, 2009

By: /S/ DONALD R. MONKS  
-----  
Donald R. Monks  
Senior Executive Vice President  
Date: October 12, 2009

-----  
| Investment Advisers and/or Broker-Dealers |  
-----

ANKURA CAPITAL PTY LIMITED

PERSHING LLC

By: /S/ GREG VAUGHN  
-----  
Greg Vaughn  
Managing Director  
Date: October 8, 2009

By: /S/ GARY JOHNSON  
-----  
Gary Johnson  
Managing Director  
Date: December 10, 2010

BLACKFRIARS ASSET MANAGEMENT LIMITED

BLACKFRIARS ASSET MANAGEMENT LIMITED

By: /S/ HUGH HUNTER  
-----  
Hugh Hunter  
Chief Executive Officer  
Date: October 7, 2009

By: /S/ MOHAMMED BHATTI  
-----  
Mohammed Bhatti  
Director and Chief Operating  
Officer  
Date: October 7, 2009

BNY MELLON ARX INVESTIMENTOS LTDA

BNY MELLON ARX INVESTIMENTOS LTDA

By: /S/ JOSE CARLOS LOPES XAVIER  
DE OLIVEIRA  
-----  
Jose Carlos Lopes Xavier De Oliveira  
Chief Executive Officer  
Date: January 4, 2010

By: /S/ MARCELO PERIERA DA SILVA  
-----  
Marcelo Periera da Silva  
Chief Financial Officer  
Date: January 4, 2010

BNY MELLON SERVICOS FINANCEIROS  
DISTRIBUIDORA DE TITULOS E VALORES  
MOBILIARIOS S.A

BNY MELLON SERVICOS FINANCEIROS  
DISTRIBUIDORA DE TITULOS E VALORES  
MOBILIARIOS S.A

By: /S/ JOSE CARLOS LOPES XAVIER  
DE OLIVEIRA  
-----  
Jose Carlos Lopes Xavier De Oliveira  
Chief Executive Officer  
Date: January 4, 2010

By: /S/ MARCELO PERIERA DA SILVA  
-----  
Marcelo Periera da Silva  
Chief Financial Officer  
Date: January 4, 2010

BNY MELLON ARX ATIVOS FINANCEIROS  
LTDA

BNY MELLON ARX ATIVOS FINANCEIROS  
LTDA

By: /S/ JOSE CARLOS LOPES XAVIER  
DE OLIVEIRA

By: /S/ MARCELO PERIERA DA SILVA

-----  
Jose Carlos Lopes Xavier De Oliveira  
Chief Executive Officer  
Date: January 4, 2010

-----  
Marcelo Periera da Silva  
Chief Financial Officer  
Date: January 4, 2010

BNY MELLON GESTAO DE PATRIMONIO LTDA

BNY MELLON GESTAO DE PATRIMONIO LTDA

By: /S/ JOSE CARLOS LOPES XAVIER  
DE OLIVEIRA

By: /S/ MARCELO PERIERA DA SILVA

-----  
Jose Carlos Lopes Xavier De Oliveira  
Chief Executive Officer  
Date: January 4, 2010

-----  
Marcelo Periera da Silva  
Chief Financial Officer  
Date: January 4, 2010

THE BOSTON COMPANY ASSET MANAGEMENT  
LLC

THE BOSTON COMPANY ASSET MANAGEMENT  
LLC

By: /S/ DAVE CAMERON

By: /S/ JOSEPH P. GENNACO

-----  
Dave Cameron  
Chairman, President and  
Chief Executive Officer  
Date: October 12, 2009

-----  
Joseph P. Gennaco  
Executive Vice President  
and Chief Operating Officer  
Date: October 12, 2009

BNY MELLON ASSET MANAGEMENT JAPAN  
LIMITED

BNY MELLON ASSET MANAGEMENT JAPAN  
LIMITED

By: /S/ SHOGO YAMAGUCHI

By: /S/ DAVID JIANG

-----  
Shogo Yamaguchi  
President and  
Representative Director  
Date: December 29, 2009

-----  
David Jiang  
Chairman and  
Representative Director  
Date: December 29, 2009

THE DREYFUS CORPORATION

INSIGHT INVESTMENT (Global)  
MANAGEMENT LIMITED

By: /S/ JAMES BITETTO

By: /s/ CHARLES FARQUHARSON

-----  
James Bitetto  
Corporate Secretary  
Date: October 7, 2009

-----  
Charles Farquharson  
Chief Risk Officer  
Date: December 04, 2009

LOCKWOOD ADVISORS, INC.

By: /S/ DON MARCHESIELLO

-----  
Don Marchesiello  
President  
Date: October 6, 2009

MELLON CAPITAL MANAGEMENT  
CORPORATION

MBSC SECURITIES CORPORATION

By: /S/ CHARLES J. JACKLIN

By: /S/ KENNETH J. BRADLE

-----  
Charles J. Jacklin  
President and CEO  
Date: October 8, 2009

-----  
Kenneth J. Bradle  
President  
Date: October 28, 2009

NEWTON INVESTMENT MANAGEMENT LIMITED

NEWTON CAPITAL MANAGEMENT LIMITED

By: /S/ ANDREW DOWNS

By: /S/ ANDREW DOWNS

-----  
Andrew Downs  
Chief Operating Officer  
Date: November 6, 2009

-----  
Andrew Downs  
Chief Operating Officer  
Date: November 6, 2009

STANDISH MELLON ASSET MANAGEMENT  
COMPANY LLC

By: /S/ DESMOND MAC INTYRE  
-----  
Desmond Mac Intyre  
President and CEO  
Date: November 19, 2009

PERSHING GROUP LLC

By: /S/ BRIAN T. SHEA  
-----  
Brian T. Shea  
Managing Director  
Date: October 9, 2009

URDANG CAPITAL MANAGEMENT, INC.

By: /S/ RICHARD J. FERST  
-----  
Richard J. Ferst  
President and  
Chief Operating Officer  
Date: October 15, 2009

URDANG CAPITAL MANAGEMENT, INC.

By: /S/ E. TODD BRIDDELL  
-----  
E. Todd Briddell  
Managing Director and  
Chief Investment Officer  
Date: October 15, 2009

URDANG SECURITIES MANAGEMENT, INC.

By: /S/ E. TODD BRIDDELL  
-----  
E. Todd Briddell  
Managing Director  
and Chief Investment Officer  
Date: October 15, 2009

URDANG SECURITIES MANAGEMENT, INC.

By: /S/ RICHARD J. FERST  
-----  
Richard J. Ferst  
President and  
Chief Operating Office  
Date: October 15, 2009

WALTER SCOTT & PARTNERS LIMITED

By: /S/ ANNA NICHOLL  
-----  
Anna Nicholl  
Chief Compliance Officer  
Date: October 8, 2009

WALTER SCOTT & PARTNERS LIMITED

By: /S/ CAROL-ANN FRASER  
-----  
Carol-Ann Fraser  
Compliance Officer  
Date: October 8, 2009

-----  
| Parent Holding Companies/Control Persons |  
-----

B.N.Y. HOLDINGS (DELAWARE) CORPORATION

By: /S/ JOHN A. PARK  
-----  
John A. Park  
Senior Vice President  
Date: October 9, 2009

BNY SEPARATE ACCOUNT SERVICES, INC.

By: /S/ BRIAN T. SHEA  
-----  
Brian T. Shea  
Chairman  
Date: October 9, 2009

BNY MELLON ASSET MANAGEMENT  
INTERNATIONAL HOLDINGS LIMITED

By: /S/ GREG BRISK  
-----  
Greg Brisk  
Director  
Date: October 12, 2009

BNY MELLON ASSET MANAGEMENT  
INTERNATIONAL HOLDINGS LIMITED

By: /S/ SHONA SPENCE  
-----  
Shona Spence  
Director  
Date: October 15, 2009

BNY MELLON INTERNATIONAL ASSET  
MANAGEMENT GROUP LIMITED

By: /S/ JEREMY N. BASSIL  
-----  
Jeremy N. Bassil  
Director  
Date: October 13, 2009

NEPTUNE LLC

By: /S/ JEREMY N. BASSIL  
-----  
Jeremy N. Bassil  
Management Committee Member  
Date: October 13, 2009

MAM (MA) HOLDING TRUST

MBC INVESTMENTS CORPORATION

By: /S/ RONALD P. O'HANLEY  
-----  
Ronald P. O'Hanley  
President  
Date: October 9, 2009

By: /S/ GORDON MOTTER  
-----  
Gordon Motter  
Chairman, President and CEO  
Date: October 9, 2009

MELLON INTERNATIONAL HOLDINGS  
S.A.R.L.

MELLON INTERNATIONAL HOLDINGS  
S.A.R.L.

By: /S/ JON LITTLE  
-----  
Jon Little  
Manager  
Date: October 9, 2009

By: /S/ EDWARD KEMP  
-----  
Edward Kemp  
Director  
Date: October 16, 2009

NEWTON MANAGEMENT LIMITED

NEWTON MANAGEMENT LIMITED

By: /S/ HELENA MORRISSEY  
-----  
Helena Morrissey  
Director  
Date: October 15, 2009

By: /S/ ANDREW DOWNS  
-----  
Andrew Downs  
Director  
Date: November 6, 2009

MELLON OVERSEAS INVESTMENT  
CORPORATION

INSIGHT INVESTMENT MANAGEMENT  
LIMITED

By: /S/ JON LITTLE  
-----  
Jon Little  
Chairman, President And  
Chief Executive Officer  
Date: December 04, 2009

By: /S/ CHARLES FARQUHARSON  
-----  
Charles Farquharson  
Chief Risk Officer  
Date: December 04, 2009

BNY INTERNATIONAL FINANCING  
CORPORATION

THE BANK OF NEW YORK MELLON SA/NV

By: /S/ FRED RICCIARDI  
-----  
Fred Ricciardi  
President  
Date: August 30, 2010

By: /S/ JEAN-CHRISTOPHE MATHONET  
-----  
Jean-Christophe Mathonet  
Managing Director  
Date: October 4, 2010

-----  
| Fund Administrators |  
-----

BNY MELLON SERVICE KAPITALANLAGE-  
GESELLSCHAFT mbH

By: /S/ CAROLINE SPECHT  
-----  
Caroline Specht  
Managing Director, Head of  
Business Strategy and Legal  
Date: August 24, 2010