

ROYAL BANK OF CANADA  
Form FWP  
May 17, 2017

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## ISSUER FREE WRITING PROSPECTUS

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Dated May 17, 2017

Royal Bank of Canada Trigger Autocallable Contingent Yield Notes

[\$·] Notes Linked to the Least Performing Underlying Between the NASDAQ 100 Stock Index and the Russell 2000® Index due on or about June 1, 2020

### Investment Description

Trigger Autocallable Contingent Yield Notes (the “Notes”) are unsecured and unsubordinated debt securities issued by Royal Bank of Canada linked to the performance of the least performing of the NASDAQ 100 Stock Index and the Russell 2000® Index (each, an “Underlying Index,” and together, the “Underlying Indices”). We will pay a quarterly Contingent Coupon payment if the closing levels of both Underlying Indices on the applicable Coupon Observation Date are equal to or greater than their respective Coupon Barriers. Otherwise, no coupon will be paid for that quarter. We will automatically call the Notes early if the closing levels of both Underlying Indices on any quarterly Call Observation Date (beginning after six months) are equal to or greater than their respective Initial Levels. If the Notes are called, we will pay you the principal amount of your Notes plus the Contingent Coupon for the applicable quarter, and no further amounts will be owed to you under the Notes. If the Notes are not called prior to maturity and the Final Levels of both Underlying Indices are equal to or greater than their respective Downside Thresholds (which are the same levels as their respective Coupon Barriers), we will pay you a cash payment at maturity equal to the principal amount of your Notes plus the Contingent Coupon for the final quarter. However, if the Final Level of the Underlying Index with the lowest percentage change from its Initial Level (the “Least Performing Underlying Index”) is less than its Downside Threshold, we will pay you less than the full principal amount, if anything, resulting in a loss on your initial investment that is proportionate to the negative performance of the Least Performing Underlying Index over the term of the Notes, and you may lose up to 100% of your initial investment.

Investing in the Notes involves significant risks. You will not receive a coupon for any Coupon Observation Date on which either Underlying Index closes below its Coupon Barrier. The Notes will not be automatically called if either Underlying Index closes below its Initial Level on a quarterly Call Observation Date. You may lose some or all of your principal amount if the Least Performing Underlying Index closes below its Downside Threshold, regardless of the performance of the other Underlying Index. The contingent repayment of principal only applies if you hold the Notes until maturity. Generally, the higher the Contingent Coupon Rate on a security, the greater the risk of loss. Any payment on the Notes, including any repayment of principal, is subject to our creditworthiness. If we were to default on our payment obligations, you may not receive any amounts owed to you under the Notes and you could lose your entire investment. The Notes will not be listed on any securities exchange.

Non-U.S. holders will not be subject to withholding on dividend equivalent payments under Section 871(m) of the U.S. Internal Revenue Code. Please see the section below, “U.S. Federal Income Tax Consequences,” which applies to the Notes.

### Features

**Contingent Coupon** — We will pay a quarterly Contingent Coupon payment if the closing levels of both Underlying Indices on the applicable Coupon Observation Date are equal to or greater than their respective Coupon Barriers.

Otherwise, no coupon will be paid for the quarter.

**Automatically Callable** — We will automatically call the Notes and pay you the principal amount of your Notes plus the Contingent Coupon otherwise due for the applicable quarter if the closing levels of both Underlying Indices on any quarterly Call Observation Date (beginning after six months) are equal to or greater than their respective Initial Levels. If the Notes are not called, investors will have the potential for downside equity market risk at maturity.

**Contingent Repayment of Principal at Maturity** — If by maturity the Notes have not been called and each Underlying Index does not close below its Downside Threshold on the Final Valuation Date, we will repay your principal

amount per Note at maturity. However, if the closing level of the Least Performing Underlying Index is less than its Downside Threshold on the Final Valuation Date, we will pay less than the principal amount, if anything, resulting in a loss on your initial investment that is proportionate to the decline in the level of the Least Performing Underlying Index from the trade date to the Final Valuation Date. The contingent repayment of principal only applies if you hold the Notes until maturity. Any payment on the Notes, including any repayment of principal, is subject to our creditworthiness.

Key Dates<sup>1</sup>

Trade Date<sup>1</sup> May 26, 2017

Settlement Date<sup>1</sup> May 31, 2017

Coupon Observation Dates<sup>2</sup> Quarterly (see page 5)

Call Observation Dates<sup>2</sup> Quarterly (beginning after six months) (see page 5)

Final Valuation Date<sup>2</sup> May 26, 2020

Maturity Date<sup>2</sup> June 1, 2020

Expected. In the event that we make any change to the expected trade date and settlement date, the Coupon<sup>1</sup> Observation Dates, the Call Observation Dates, the Final Valuation Date and/or the Maturity Date will be changed so that the stated term of the Notes remains approximately the same.

<sup>2</sup> Subject to postponement if a market disruption event occurs as described under “General Terms of the Notes—Payment at Maturity” below.

**NOTICE TO INVESTORS: THE NOTES ARE SIGNIFICANTLY RISKIER THAN CONVENTIONAL DEBT INSTRUMENTS. WE ARE NOT NECESSARILY OBLIGATED TO REPAY THE FULL PRINCIPAL AMOUNT OF THE NOTES AT MATURITY, AND THE NOTES CAN HAVE DOWNSIDE MARKET RISK SIMILAR TO THE LEAST PERFORMING UNDERLYING INDEX. THIS MARKET RISK IS IN ADDITION TO THE CREDIT RISK INHERENT IN PURCHASING A DEBT OBLIGATION OF ROYAL BANK OF CANADA. YOU SHOULD NOT PURCHASE THE NOTES IF YOU DO NOT UNDERSTAND OR ARE NOT COMFORTABLE WITH THE SIGNIFICANT RISKS INVOLVED IN INVESTING IN THE NOTES.**

**YOU SHOULD CAREFULLY CONSIDER THE RISKS DESCRIBED UNDER “KEY RISKS” BEGINNING ON PAGE 7 OF THIS FREE WRITING PROSPECTUS AND UNDER “RISK FACTORS” BEGINNING ON PAGE S-1 OF THE PROSPECTUS SUPPLEMENT BEFORE PURCHASING ANY NOTES. EVENTS RELATING TO ANY OF THOSE RISKS, OR OTHER RISKS AND UNCERTAINTIES, COULD ADVERSELY AFFECT THE MARKET VALUE OF, AND THE RETURN ON, YOUR NOTES. YOU MAY LOSE SOME OR ALL OF THE PRINCIPAL AMOUNT OF THE NOTES.**

Note Offering

This free writing prospectus relates to Trigger Autocallable Contingent Yield Notes we are offering. The Notes are linked to the least performing underlying between the NASDAQ 100 Stock Index and the Russell 2000<sup>®</sup> Index. The Contingent Coupon Rate, Initial Levels, Downside Thresholds and Coupon Barriers for the Notes will be determined on the trade date. The Notes are offered at a minimum investment of 100 Notes at \$10.00 per Note (representing a \$1,000 investment), and integral multiples of \$10.00 in excess thereof.

Underlying Indices (Least Performing of)	Tickers	Contingent Coupon Rate	Initial Levels	Downside Thresholds	Coupon Barriers	CUSIP	ISIN
NASDAQ 100 Stock Index (NDX)	NDX	[7.30% to 8.30%] per annum	70% of its Initial Level	70% of its Initial Level	70% of its Initial Level	78014E737	US78014E7379
Russell 2000 <sup>®</sup> Index (RTY)	RTY		70% of its Initial Level	70% of its Initial Level	70% of its Initial Level		

See “Additional Information About Royal Bank of Canada and the Notes” in this free writing prospectus. The Notes will have the terms specified in the prospectus dated January 8, 2016, the prospectus supplement dated January 8, 2016 and this free writing prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the Notes or passed upon the accuracy or the adequacy of this free writing prospectus or the accompanying prospectus and prospectus supplement. Any representation to the contrary is a criminal offense.

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Offering of the Notes	Price to Public		Fees and Commissions <sup>(1)</sup>		Proceeds to Us	
	Total	Per Note	Total	Per Note	Total	Per Note
Notes linked to the Least Performing Underlying Between the NASDAQ 100 Stock Index and the Russell 2000® Index	.	\$10.00	.	\$0.20	.	\$9.80

<sup>(1)</sup> UBS Financial Services Inc., which we refer to as UBS, will receive a commission that will depend on market conditions on the trade date. In no event will the commission received by UBS exceed \$0.20 per \$10.00 principal amount of the Notes. See “Supplemental Plan of Distribution (Conflicts of Interest)” on page 31 of this free writing prospectus.

The initial estimated value of the Notes as of the date of this document is \$9.9025 per \$10 in principal amount, which is less than the price to public. The pricing supplement relating to the Notes will set forth our estimate of the initial value of the Notes as of the trade date, which will not be more than \$0.20 less than this amount. The actual value of the Notes at any time will reflect many factors, cannot be predicted with accuracy, and may be less than this amount. We describe our determination of the initial estimated value under “Key Risks” beginning on page 7, “Supplemental Plan of Distribution (Conflicts of Interest)” on page 31 and “Structuring the Notes” on page 31 of this free writing prospectus. The Notes will not constitute deposits insured under the Canada Deposit Insurance Corporation Act or by the United States Federal Deposit Insurance Corporation or any other Canadian or United States government agency or instrumentality.

UBS Financial Services Inc. RBC Capital Markets, LLC

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Additional Information About Royal Bank of Canada and the Notes

Royal Bank of Canada has filed a registration statement (including a prospectus) with the Securities and Exchange Commission, or SEC, for the offering to which this free writing prospectus relates. Before you invest, you should read the prospectus in that registration statement and the other documents relating to this offering that Royal Bank of Canada has filed with the SEC for more complete information about Royal Bank of Canada and this offering. You may obtain these documents without cost by visiting EDGAR on the SEC website at [www.sec.gov](http://www.sec.gov). Alternatively, Royal Bank of Canada, any agent or any dealer participating in this offering will arrange to send you the prospectus, the prospectus supplement, and this free writing prospectus if you so request by calling toll-free 866-609-6009. You may revoke your offer to purchase the Notes at any time prior to the time at which we accept such offer by notifying the applicable agent. We reserve the right to change the terms of, or reject any offer to purchase, the Notes prior to their issuance. In the event of any changes to the terms of the Notes, we will notify you and you will be asked to accept such changes in connection with your purchase. You may also choose to reject such changes, in which case we may reject your offer to purchase.

You should read this free writing prospectus together with the prospectus dated January 8, 2016, as supplemented by the prospectus supplement dated January 8, 2016, relating to our senior global medium-term notes, Series G, of which these Notes are a part. This free writing prospectus, together with the documents listed below, contains the terms of the Notes and supersedes all other prior or contemporaneous oral statements as well as any other written materials including preliminary or indicative pricing terms, correspondence, trade ideas, structures for implementation, sample structures, fact sheets, brochures or other educational materials of ours. You should carefully consider, among other things, the matters set forth in “Key Risks” below, as the Notes involve risks not associated with conventional debt securities.

If the terms of the prospectus and prospectus supplement are inconsistent with the terms discussed herein, the terms discussed in this free writing prospectus will control.

You may access these on the SEC website at [www.sec.gov](http://www.sec.gov) as follows (or if such address has changed, by reviewing our filing for the relevant date on the SEC website):

..Prospectus supplement dated January 8, 2016:

<http://www.sec.gov/Archives/edgar/data/1000275/000121465916008811/p14150424b3.htm>

..Prospectus dated January 8, 2016:

<http://www.sec.gov/Archives/edgar/data/1000275/000121465916008810/j18160424b3.htm>

As used in this free writing prospectus, “we,” “us” or “our” refers to Royal Bank of Canada.

### Investor Suitability

The Notes may be suitable for you if, among other considerations:

.. You fully understand the risks inherent in an investment in the Notes, including the risk of loss of your entire initial investment.

You can tolerate a loss of all or a substantial portion of your investment and are willing to make an investment that may have the same downside market risk as an investment in the securities composing the Least Performing Underlying Index.

.. You believe the closing levels of both Underlying Indices will be equal to or greater than their respective Coupon Barriers on most or all of the Coupon Observation Dates (including the Final Valuation Date).

.. You are willing to make an investment whose return is limited to the applicable Contingent Coupon payments, regardless of any potential appreciation of the Underlying Indices, which could be significant.

.. You do not seek guaranteed current income from this investment and are willing to forgo the dividends paid on the equity securities composing the Underlying Indices.

.. You can tolerate fluctuations in the price of the Notes prior to maturity that may be similar to or exceed the downside fluctuations of the Underlying Indices.

You are willing to invest in Notes for which there may be little or no secondary market, and you accept that the secondary market will depend in large part on the price, if any, at which RBC Capital Markets, LLC, which we refer to as "RBCCM," is willing to purchase the Notes.

You would be willing to invest in the Notes if the Contingent Coupon Rate was set to the bottom of the range indicated on the cover page of this free writing prospectus (the actual Contingent Coupon Rate will be determined on the trade date).

.. You are willing to accept individual exposure to each Underlying Index and that the performance of the Least Performing Underlying Index will not be offset or mitigated by the performance of the other Underlying Index.

.. You understand and accept the risks associated with the Underlying Indices.

.. You are willing to invest in securities that may be called early and you are otherwise willing to hold such securities to maturity.

.. You are willing to assume our credit risk for all payments under the Notes, and understand that if we default on our obligations, you may not receive any amounts due to you, including any repayment of principal.

The Notes may not be suitable for you if, among other considerations:

.. You do not fully understand the risks inherent in an investment in the Notes, including the risk of loss of your entire initial investment.

.. You cannot tolerate a loss on your investment and require an investment designed to provide a full return of principal at maturity.

.. You are not willing to make an investment that may have the same downside market risk as an investment in the equity securities composing the Least Performing Underlying Index.

You believe that the level of either Underlying Index will decline during the term of the Notes and is likely to close below its Coupon Barrier on most or all of the Coupon Observation Dates and below its Downside Threshold on the Final Valuation Date.

.. You seek an investment that participates in the full appreciation in the levels of the Underlying Indices or that has unlimited return potential.

.. You cannot tolerate fluctuations in the price of the Notes prior to maturity that may be similar to or exceed the downside fluctuations of the Least Performing Underlying Index.

You would be unwilling to invest in the Notes if the Contingent Coupon Rate was set to the bottom of the range indicated on the cover page of this free writing prospectus (the actual Contingent Coupon Rate will be determined on the trade date).

.. You are unwilling to accept individual exposure to each Underlying Index and that the performance of the Least Performing Underlying Index will not be offset or mitigated by the performance of the other Underlying Index.

.. You seek guaranteed current income from this investment or prefer to receive the dividends paid on the securities composing the Underlying Indices.

.. You do not understand or accept the risks associated with the Underlying Indices.

You are unable or unwilling to hold securities that may be called early, or you are otherwise unable or unwilling to hold such securities to maturity, or you seek an investment for which there will be an active secondary market for the Notes.

You are not willing to assume our credit risk for all payments under the Notes, including any repayment of principal.

The suitability considerations identified above are not exhaustive. Whether or not the Notes are a suitable investment for you will depend on your individual circumstances, and you should reach an investment decision only after you and your investment, legal, tax, accounting, and other advisers have carefully considered the suitability of an investment in the Notes in light of your particular circumstances. You should also review carefully the “Key Risks” beginning on page 6 of this free writing prospectus for risks related to an investment in the Notes. In addition, you should review carefully the section below, “Information About the Underlying Indices,” for more information about these indices.

Indicative Terms of the Notes<sup>1</sup>

Issuer:	Royal Bank of Canada
Principal Amount per Note:	\$10.00 per Note (subject to a minimum purchase of 100 Notes (\$1,000))
Note Term: <sup>2</sup>	Approximately three years unless earlier called
Underlying Indices:	The NASDAQ 100 Stock Index (“NDX”) and the Russell 2000 Index (“RTY”)
Contingent Coupon:	<p>If the closing levels of both Underlying Indices are equal to or greater than their respective Coupon Barriers on any Coupon Observation Date, we will pay you the Contingent Coupon applicable to that Coupon Observation Date.</p> <p>If the closing level of either Underlying Index is less than its Coupon Barrier on any Coupon Observation Date, the Contingent Coupon applicable to that Coupon Observation Date will not accrue or be payable, and we will not make any payment to you on the relevant Coupon Payment Date. The Contingent Coupon will be a fixed amount of equal quarterly installments at the Contingent Coupon Rate, which is [7.30% to 8.30%] per annum (or [\$0.1825 to \$0.2075] per quarter for each \$10.00 principal amount Note), to be determined on the trade date.</p> <p>Contingent Coupon payments on the Notes are not guaranteed. We will not pay you the Contingent Coupon for any Coupon Observation Date on which the closing level of either Underlying Index is less than its Coupon Barrier.</p>
Contingent Coupon Rate:	The Contingent Coupon Rate is expected to be between 7.30% and 8.30% per annum. The actual Contingent Coupon Rate will be determined on the trade date.
Coupon Payment Dates:	Two business days following each Coupon Observation Date (as set forth on page 6), except that the Coupon Payment Date for the Final Valuation Date is the Maturity Date.
Automatic Call Feature:	<p>The Notes will be called automatically if the closing level of both Underlying Indices on any quarterly Call Observation Date (beginning after six months and set forth on page 6) are equal to or greater than their respective Initial Levels.</p> <p>If the Notes are called on any Call Observation Date, we will pay you on the corresponding Coupon Payment Date (which will be the “Call Settlement Date”) a cash payment per Note equal to your principal amount plus the Contingent Coupon otherwise due on that day under the Contingent Coupon feature. No further amounts will be owed to you under the Notes.</p>

<sup>1</sup> Terms used in this free writing prospectus, but not defined herein, shall have the meanings ascribed to them in the prospectus or the prospectus supplement.

<sup>2</sup> In the event we make any change to the expected trade date and settlement date, the Coupon Observation Dates, the Call Observation Dates, the Coupon Payment Dates, the Call Settlement Dates, the Final Valuation Date and/or the Maturity Date will be changed to ensure that the stated term of the Notes remains approximately the same.

If the Notes are not called and the closing levels of both Underlying Indices are equal to or greater than their respective Downside Thresholds, we will pay you a cash payment per Note on the Maturity Date equal to \$10.00 plus the Contingent Coupon otherwise due on the Maturity Date.

**Payment at Maturity:** If the Notes are not called and the Final Level of the Least Performing Underlying Index is less than its Downside Threshold, we will pay you a cash payment on the Maturity Date of less than the principal amount, if anything, resulting in a loss on your initial investment that is proportionate to the negative Underlying Index Return of the Least Performing Underlying Index, equal to:  
 $\$10.00 + (\$10.00 \times \text{Underlying Index Return of the Least Performing Underlying Index})$

**Least Performing Underlying Index:** The Underlying Index with the lowest Underlying Index Return.

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Underlying Index      With respect to each Underlying Index,  
                                 Final Level – Initial Level  
Returns:                Initial Level  
Downside  
Thresholds:            With respect to each Underlying Index, 70.00% of its Initial Level.  
Coupon  
Barriers:                With respect to each Underlying Index, 70.00% of its Initial Level.  
Initial Levels:        With respect to each Underlying Index, its closing level on the trade date.  
Final Levels:         With respect to each Underlying Index, its closing level on the Final Valuation Date, as determined by  
                                 the calculation agent.

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Investment Timeline

**Trade Date:** The Initial Level, Downside Threshold and Coupon Barrier of each Underlying Index are determined. The Contingent Coupon Rate is set.

**Quarterly (beginning after six months):** If the closing levels of both Underlying Indices are equal to or greater than their respective Coupon Barriers on any Coupon Observation Date, we will pay you a Contingent Coupon payment on the applicable Coupon Payment Date. The Notes will be called if the closing levels of both Underlying Indices on any quarterly Call Observation Date (beginning after six months) are equal to or greater than their respective Initial Levels. If the Notes are called, we will pay you a cash payment per Note equal to \$10.00 plus the Contingent Coupon otherwise due on that date.

**Maturity Date:** The Final Level of each Underlying Index is observed on the Final Valuation Date. If the Notes have not been called and the Final Levels of both Underlying Indices are equal to or greater than their respective Downside Thresholds (and their respective Coupon Barriers), we will repay the principal amount equal to \$10.00 per Note plus the Contingent Coupon otherwise due on the Maturity Date. If the Notes have not been called and the Final Level of the Least Performing Underlying Index is less than its Downside Threshold, we will pay less than the principal amount, if anything, resulting in a loss on your initial investment proportionate to the decline of the Least Performing Underlying Index, for an amount equal to:

$\$10.00 + (\$10.00 \times \text{Underlying Index Return of the Least Performing Underlying Index})$  per Note

INVESTING IN THE NOTES INVOLVES SIGNIFICANT RISKS. YOU MAY LOSE SOME OR ALL OF YOUR PRINCIPAL AMOUNT. YOU WILL BE EXPOSED TO THE MARKET RISK OF EACH UNDERLYING INDEX ON EACH COUPON OBSERVATION DATE AND ON THE FINAL VALUATION DATE, AND ANY DECLINE IN THE LEVEL OF ONE UNDERLYING INDEX MAY NEGATIVELY AFFECT YOUR RETURN AND WILL NOT BE OFFSET OR MITIGATED BY A LESSER DECLINE OR ANY POTENTIAL INCREASE IN THE LEVEL OF THE OTHER UNDERLYING INDEX. ANY PAYMENT ON THE NOTES, INCLUDING ANY REPAYMENT OF PRINCIPAL, IS SUBJECT TO OUR CREDITWORTHINESS. IF WE WERE TO DEFAULT ON OUR PAYMENT OBLIGATIONS, YOU MAY NOT RECEIVE ANY AMOUNTS OWED TO YOU UNDER THE NOTES AND YOU COULD LOSE YOUR ENTIRE INVESTMENT.

Coupon Observation Dates and Coupon Payment Dates\*

Coupon Observation Dates	Coupon Payment Dates
August 29, 2017	August 31, 2017
November 27, 2017 <sup>(1)</sup>	November 29, 2017 <sup>(2)</sup>
February 26, 2018 <sup>(1)</sup>	February 28, 2018 <sup>(2)</sup>
May 29, 2018 <sup>(1)</sup>	May 31, 2018 <sup>(2)</sup>
August 28, 2018 <sup>(1)</sup>	August 30, 2018 <sup>(2)</sup>
November 26, 2018 <sup>(1)</sup>	November 28, 2018 <sup>(2)</sup>
February 26, 2019 <sup>(1)</sup>	February 28, 2019 <sup>(2)</sup>
May 28, 2019 <sup>(1)</sup>	May 30, 2019 <sup>(2)</sup>
August 27, 2019 <sup>(1)</sup>	August 29, 2019 <sup>(2)</sup>
November 26, 2019 <sup>(1)</sup>	November 29, 2019 <sup>(2)</sup>
February 26, 2020 <sup>(1)</sup>	February 28, 2020 <sup>(2)</sup>
May 26, 2020 <sup>(1)(3)</sup>	June 1, 2020 <sup>(2)(4)</sup>

(1) These Coupon Observation Dates are also Call Observation Dates.

(2) These Coupon Payment Dates are also Call Settlement Dates.

(3) This is also the Final Valuation Date.

(4) This is also the Maturity Date.

\* Expected. Subject to the market disruption event provisions set forth below under “General Terms of the Notes—Market Disruption Events.”

## Key Risks

An investment in the Notes is subject to the risks described below, as well as the risks described under “Risk Factors” in the prospectus and the prospectus supplement. The return on the Notes is linked to the performance of the Underlying Indices. The Notes do not guarantee any return of principal at, or prior to, maturity. Investing in the Notes is not equivalent to investing directly in the securities composing the Underlying Indices. In addition, your investment in the Notes entails other risks not associated with an investment in conventional debt securities. You should consider carefully the following discussion of risks before you decide that an investment in the Notes is suitable for you.

### Risks Relating to the Notes Generally

Your investment in the Notes may result in a loss. The Notes do not guarantee any return of principal. The amount payable to you at maturity, if any, will be determined as described in this free writing prospectus. The return on the Notes at maturity will depend on whether the Notes are called on any Call Observation Date, or if the Notes are not called, the extent to which the Final Level of the Least Performing Underlying Index is less than its Downside Threshold. If the Notes are not called and the Final Level of the Least Performing Underlying Index is below its Downside Threshold on the Final Valuation Date, you will lose 1% (or a fraction thereof) of the principal amount for every 1% (or a fraction thereof) decrease in the level of the Least Performing Underlying Index below its Initial Level. Accordingly, you may lose the entire principal amount of your Notes.

The Notes are subject to our credit risk. The Notes are subject to our credit risk, and our credit ratings and credit spreads may adversely affect the market value of the Notes. Investors are dependent on our ability to pay all amounts due on the Notes, and therefore investors are subject to our credit risk and to changes in the market’s view of our creditworthiness. Any decline in our credit ratings or increase in the credit spreads charged by the market for taking our credit risk is likely to adversely affect the value of the Notes. If we were to default on our payment obligations, you may not receive any amounts owed to you under the Notes and you could lose your entire investment.

You may not receive any Contingent Coupons with respect to your Notes. Royal Bank of Canada will not necessarily make periodic coupon payments on the Notes. If the closing level of either Underlying Index on a Coupon Observation Date is less than its Coupon Barrier, we will not pay you the Contingent Coupon applicable to that Coupon Observation Date. If either Underlying Index is less than its Coupon Barrier on each of the Coupon Observation Dates, we will not pay you any Contingent Coupons during the term of, and you will not receive a positive return on, your Notes. Generally, this non-payment of the Contingent Coupon on the Final Valuation Date will coincide with a greater risk of principal loss on your Notes. Accordingly, if we do not pay the Contingent Coupon on the Maturity Date, you will incur a loss of principal, because the Final Level of the Least Performing Underlying Index will be less than its Downside Threshold.

You will not participate in any appreciation of the Underlying Indices, and any potential return on the Notes is limited. The return on the Notes is limited to the pre-specified Contingent Coupon Rate, regardless of the appreciation of the Underlying Indices. As a result, the return on an investment in the Notes could be less than the return on a direct investment in the Underlying Indices. In addition, the total return on the Notes will vary based on the number of Coupon Observation Dates on which the Contingent Coupon becomes payable prior to maturity or an automatic call. Further, if the Notes are called due to the automatic call feature, you will not receive any Contingent Coupons or any other payment in respect of any Coupon Observation Dates after the applicable Call Settlement Date. Since the Notes could be called as early as the second Coupon Observation Date, the total return on the Notes could be minimal. On the other hand, if the Notes have not been previously called and if the level of an Underlying Index is less than its Initial Level, as the Maturity Date approaches and the remaining number of Coupon Observation Dates decreases, the Notes are less likely to be automatically called, as there will be a shorter period of time remaining for the level of that Underlying Index to increase to its Initial Level. If the Notes are not called, you will be subject to the Underlying Indices’ risk of decline.

If you sell the Notes prior to maturity, you may receive less than the principal amount. If the Notes are not automatically called, you should be willing to hold the Notes until maturity. If you are able to sell the Notes in the secondary market prior to maturity, you may have to sell them for a loss relative to the principal amount, even if the levels of the Underlying Indices are above their respective Downside Thresholds. In addition, you will not receive the benefit of any contingent repayment of principal associated with the Downside Thresholds if you sell the Notes before the Maturity Date. The potential returns described in this document assume that

the Notes, which are not designed to be short-term trading instruments, are held to maturity.

The Notes may be called early and are subject to reinvestment risk. If the Notes are called early, the term of the Notes will be reduced and you will not receive any payment on the Notes after the applicable Call Settlement Date.

There is no guarantee that you would be able to reinvest the proceeds from an automatic call of the Notes at a comparable rate of return for a similar level of risk. To the extent you are able to reinvest such proceeds in an investment comparable to the Notes; you may incur transaction costs such as dealer discounts and hedging costs built into the price of the new securities. The Notes may be called as early as the second Coupon Observation Date. The Contingent Coupon Rate will reflect in part the volatility of the Underlying Indices and may not be sufficient to compensate you for the risk of loss at maturity. "Volatility" refers to the frequency and magnitude of changes in the levels of the Underlying Indices. The greater the volatility of the Underlying Indices, the more likely it is that the level of either Underlying Index could close below its Downside Threshold on the Final Valuation Date. This risk will generally be reflected in a higher Contingent Coupon Rate for the Notes than the interest rate payable on our conventional debt securities with a comparable term. In addition, lower correlation between the Underlying Indices can also indicate a greater likelihood of one Underlying Index closing below its Coupon Barrier or Downside Threshold on a Coupon Observation Date or Final Valuation Date. This greater risk will also be reflected in a higher Contingent Coupon Rate than on a security linked to Underlying Indices with a greater degree of correlation. However, while the Contingent Coupon will be a fixed amount, the Underlying Indices' volatility and correlation can change significantly over the term of the Notes. The levels of one or both of the Underlying Indices could fall sharply as of the Final Valuation Date, which could result in missed Contingent Coupon payments and a significant loss of your principal amount.

Your return on the Notes may be lower than the return on a conventional debt security of comparable maturity. The return that you will receive on the Notes, which could be negative, may be less than the return you could earn on other investments. Your investment may not reflect the full opportunity cost to you when you take into account factors that affect the time value of money, such as inflation.

The initial estimated value of the Notes will be less than the price to the public. The initial estimated value that is set forth on the cover page of this document, and that will be set forth in the final pricing supplement for the Notes, will be less than the public offering price you pay for the Notes, does not represent a minimum price at which we, RBCCM or any of our other affiliates would be willing to purchase the Notes in any secondary market (if any exists) at any time. If you attempt to sell the Notes prior to maturity, their market value may be lower than the price you paid for them and the initial estimated value. This is due to, among other things, changes in the levels of the Underlying Indices, the borrowing rate we pay to issue securities of this kind, and the inclusion in the price to the public of the underwriting discount, and our estimated profit and the costs relating to our hedging of the Notes.

These factors, together with various credit, market and economic factors over the term of the Notes, are expected to reduce the price at which you may be able to sell the Notes in any secondary market and will affect the value of the Notes in complex and unpredictable ways. Assuming no change in market conditions or any other relevant factors, the price, if any, at which you may be able to sell your Notes prior to maturity may be less than the price to public, as any such sale price would not be expected to include the underwriting discount and our estimated profit and the costs relating to our hedging of the Notes. In addition, any price at which you may sell the Notes is likely to reflect customary bid-ask spreads for similar trades. In addition to bid-ask spreads, the value of the Notes determined for any secondary market price is expected to be based on a secondary market rate rather than the internal borrowing rate used to price the Notes and determine the initial estimated value. As a result, the secondary price will be less than if the internal borrowing rate was used. The Notes are not designed to be short-term trading instruments. Accordingly, you should be able and willing to hold your Notes to maturity.

Our initial estimated value of the Notes is an estimate only, calculated as of the time the terms of the Notes are set. The initial estimated value of the Notes is based on the value of our obligation to make the payments on the Notes, together with the mid-market value of the derivative embedded in the terms of the Notes. See “Structuring the Notes” below. Our estimate is based on a variety of assumptions, including our credit spreads, expectations as to dividends, interest rates and volatility, and the expected term of the Notes. These assumptions are based on certain forecasts about future events, which may prove to be incorrect. Other entities may value the Notes or similar securities at a price that is significantly different than we do.

The value of the Notes at any time after the trade date will vary based on many factors, including changes in market conditions, and cannot be predicted with accuracy. As a result, the actual value you would receive if you sold the Notes in any secondary market, if any, should be expected to differ materially from the initial estimated value of your Notes and the amount that may be paid on the Notes.

Your return on the Notes will not reflect dividends on the equity securities composing the Underlying Indices. The return on the Notes will not reflect the return you would realize if you actually owned the equity securities composing the Underlying Indices and received the dividends paid on those equity securities. The Final Levels of both Underlying Indices and the determination of the amount to be paid at maturity or upon an automatic call will not take into consideration the value of those dividends.

If the levels of the Underlying Indices change, the market value of the Notes may not change in the same manner. Owning the Notes is not the same as owning the securities composing the Underlying Indices. Accordingly, changes in the levels of the Underlying Indices may not result in a comparable change of the market value of the Notes. If the levels of the Underlying Indices on any trading day increase above their respective Initial Levels or Coupon Barriers, the value of the Notes may not increase in a comparable manner, if at all. It is possible for the levels of the Underlying Indices to increase while the value of the Notes declines.

The determination of the payments on the Notes, and whether they are subject to an automatic call, does not take into account all developments in the levels of the Underlying Indices. Changes in the levels of the Underlying Indices during the periods between each Coupon Observation Date may not be reflected in the determination as to whether the Contingent Coupon is payable to you on any Coupon Payment Date or whether the Notes are subject to an automatic call, or the calculation of the amount payable, if any, at maturity. The calculation agent will determine whether (i) the Contingent Coupon is payable to you on any quarterly Coupon Payment Date or (ii) the Notes are automatically called on any quarterly Call Observation Date by observing only the closing levels of the Underlying Indices on each Coupon Observation Date. The calculation agent will calculate the payment at maturity by comparing only the closing level of the Least Performing Underlying Index on the Final Valuation Date relative to its Initial Level. No other levels will be taken into account. As a result, you may lose some or all of your principal

amount even if the level of the Least Performing Underlying Index has risen at certain times during the term of the Notes before falling to a level below its Downside Threshold on the Final Valuation Date.

The Notes are not designed to be short-term trading instruments. The price at which you will be able to sell the Notes to us or our affiliates prior to maturity, if at all, may be at a substantial discount from the principal amount of the Notes, even in cases where the closing levels of the Underlying Indices have appreciated since the trade date. In addition, you will not receive the benefit of any contingent repayment of principal associated with the Downside Thresholds if you sell the Notes before the Maturity Date. The potential returns described in this document assume that the Notes, which are not designed to be short-term trading instruments, are held to maturity.

You must rely on your own evaluation of the merits of an investment linked to the Underlying Indices. In the ordinary course of their business, our affiliates, or UBS or its affiliates, may have expressed views on expected movements in each of the Underlying Indices or the securities included in the Underlying Indices, and may do so in the future. These views or reports may be communicated to our respective clients and clients of our respective affiliates. However, these views are subject to change from time to time. Moreover, other professionals who transact business in markets relating to either Underlying Index, may at any time have significantly different views from those of ours, and those of UBS and its affiliates. For these reasons, you are encouraged to derive information concerning the Underlying Indices from multiple sources, and you should not rely solely on views expressed by us, UBS, or our respective affiliates.

Your return on the Notes is not linked to a basket consisting of the Underlying Indices. Rather, it will be contingent upon the performance of each individual Underlying Index. Unlike an instrument with a return linked to a basket of indices or other underlying assets, in which risk is mitigated and diversified among all of the components of the basket, you will be exposed equally to the risks related to both of the Underlying Indices. Poor performance by either one of the Underlying Indices over the term of the Notes may negatively affect your return and will not be offset or mitigated by a positive performance by the other Underlying Index. For the Notes to be automatically called or to receive any Contingent Coupon payment or contingent repayment of principal at maturity from us, both Underlying Indices must close above their Initial Levels, Coupon Barriers and Downside Thresholds, respectively, on the applicable Coupon Observation Date. In addition, if not called prior to maturity, you may incur a loss proportionate to the negative return of the Least

Performing Underlying Index. Accordingly, your investment is subject to the market risk of each Underlying Index, which results in a higher risk of your not receiving Contingent Coupon payments and incurring a loss at maturity.

Because the Notes are linked to the individual performance of more than one Underlying Index, it is more likely that one of the Underlying Indices will decrease in value below its Coupon Barrier and its Downside Threshold, increasing the probability that you will not receive the Contingent Coupons and that you will lose some or all of your initial investment. The risk that you will not receive the Contingent Coupons and that you will lose some or all of your initial investment in the Notes is greater if you invest in the Notes as opposed to securities that are linked to the performance of a single Underlying Index if their terms are otherwise substantially similar. With a greater total number of Underlying Indices, it is more likely that an Underlying Index will be below its Coupon Barrier or Downside Threshold on a Coupon Observation Date or the Final Valuation Date, and therefore it is more likely that you will not receive the Contingent Coupons and that at maturity you will receive an amount in cash which is worth less than your principal amount. In addition, the performances of a pair of Underlying Indices may be positively or negatively correlated, or may not be correlated at all. If the Underlying Indices are not correlated to each other or are negatively correlated, there is a greater potential for one of those Underlying Indices to close below its Coupon Barrier or Downside Threshold or on the Final Valuation Date, respectively, and therefore the risk of missing a Contingent Coupon payment and that you will lose a portion of your principal at maturity.

It is impossible to predict what the correlations between the Underlying Indices will be over the term of the Notes. The Underlying Indices represent different equity markets and these different equity markets may not perform similarly over the term of the Notes. Although the correlation of the Underlying Indices' performance may change over the term of the Notes, the Contingent Coupon Rate is determined, in part, based on the Underlying Indices' performance calculated using our internal models at the time when the terms of the Notes are determined. As stated earlier, a higher Contingent Coupon Rate is generally associated with lower correlation of the Underlying Indices, which reflects a greater potential for missed Contingent Coupons and for a loss on your investment at maturity. See "Correlation of the Underlying Indices" below.

#### Risks Relating to Liquidity and Secondary Market Issues

Secondary trading in the Notes may be limited. The Notes will not be listed on a securities exchange. There may be little or no secondary market for the Notes. Even if there is a secondary market, it may not provide enough liquidity to allow you to trade or sell the Notes easily.

RBCCM intends to act as a market maker for the Notes, but is not required to do so. Because we do not expect that other market makers will participate significantly in the secondary market for the Notes, the price at which you may be able to trade the Notes is likely to depend on the price, if any, at which RBCCM is willing to buy the Notes. If at any time RBCCM does not act as a market maker, it is likely that there would be little or no secondary market for the Notes. We expect that transaction costs in any secondary market would be high. As a result, the difference between the bid and asked prices for the Notes in any secondary market could be substantial. If you sell the Notes before maturity, you may have to do so at a substantial discount from the issue price, and as a result, you may suffer substantial losses.

Prior to maturity, the value of the Notes will be influenced by many unpredictable factors. Many economic and market factors will influence the terms of the Notes at issuance and their value prior to maturity or an automatic call. These factors are similar in some ways to those that could affect the value of a combination of instruments that might be used to replicate the payments on the Notes, including a combination of a bond with one or more options or other derivative instruments. For the market value of the Notes, we expect that, generally, the levels of the Underlying Indices on any day will affect the value of the Notes more than any other single factor. However, you should not expect the value of the Notes in the secondary market to vary in proportion to changes in the levels of the Underlying Indices. The value of the Notes will be affected by a number of other factors that may either offset or magnify each other, including: