



# **Dual Counter Market Maker (DCMM) File Interface Specification**

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## A DCMM Activity Form Submission

### A.1 DCMM Activity Form filename convention

The filename convention of the interface file is as follows:

DCMMAF\_NNNNN\_YYYYMMDD.ZIP (to be submitted to ECP)

Contains:

DCMMAF\_NNNNN\_YYYYMMDD.CSV

Where:

NNNNN: Broker Firm ID (right-aligned padded with zero (0), must be the DCMM Firm ID

YYYYMMDD: Trade Date (must be the same as the field in the file)

The contained csv file must be encoded in UTF-8 without BOM.

There is only one DCMM Activity Form per broker firm per trading day.

EP should submit the daily report in time (as per stated in A.2). Late submission or re-submission may be allowed subjects to approval by HKEX.

#### Example:

File Format	Convention	Example
CSV file	DCMMAF_Firm ID_Trade Date	DCMMAF_01234_20230717.CSV

## A.2 DCMM Activity Form submission hour and response file distribution time

No.	Time	Party	Activity
1	Submission window is between 10:15am on T Day and 10:14am on T+1 Day inclusively	DCMM	Submission of DCMM Activity Form of T day (DCMMAF_NNNNN_YYYYMMDD.ZIP).
2	By 3:00pm on T+1 Day	HKEX	Distribution of Result File after processing DCMM Activity Form (DCMMAF_Result_NNNNN_YYYYMMDD_YYYYMMDD.ZIP).

## A.3 File collection and distribution channel

DCMMs/EPs can submit DCMM Activity Form on every Hong Kong Securities Market trading day within submission hour (refer to section A.2) through ECP.

### Submission through ECP

Submission Path (SFTP)	/submission/DCMMAF
Submission Page (Web Interface)	<p>To submit files: Login ECP Web Interface and click “Submission” hyperlink in the navigation bar. Click “DCMM Activity Form” hyperlink for submission.</p> <p>On submission received: A SHA-256 checksum of the file submitted will be displayed on screen upon submission.</p> <p>On submission rejected: Rejection Code and Rejection Reason will be displayed on screen upon submission (Refer to Appendix E.3) Submission result could also be enquired from the Activity Enquiry page.</p>

If more than one submissions for the same trading day throughout the day, only the last submitted copy will be prevailed.

### Collection through ECP

Collection Path (SFTP)	/download/DCMMAFRF
Collection Page (Web Interface)	Download corner of ECP Web Interface – “DCMM Activity Form Result File”

## B DCMM Activity Form file specification

The DCMM Activity Form file is in csv format, delimited by comma, without any blank lines. The csv file does not have column header row, all field values shall not contain comma character “,”.

#	Field	Format	Remark
1	Item No.	Numeric	<ul style="list-style-type: none"> <li>• Unique within the file</li> <li>• Starting from 1</li> <li>• Consecutively increasing by 1 (i.e. 1, 2, 3, 4, ...)</li> </ul>
2	Trading Date	Numeric	<ul style="list-style-type: none"> <li>• In YYYYMMDD format</li> <li>• Same as the trade date in file name</li> <li>• Same throughout the file</li> </ul>
3	Trade Time	Alphanumeric	<ul style="list-style-type: none"> <li>• In HHMMSS format</li> </ul>
4	Broker Firm ID (=Exchange Participant ID)	Numeric	<ul style="list-style-type: none"> <li>• Maximum 5 digits</li> <li>• Leading zero is optional</li> <li>• Same throughout the file</li> </ul>
5	Broker Number	Numeric	<ul style="list-style-type: none"> <li>• Maximum 5 digits</li> <li>• Leading zero is optional</li> </ul>
6	Stock code	Numeric	<ul style="list-style-type: none"> <li>• Maximum 5 digits</li> <li>• Leading zero is optional</li> </ul>
7	Buy/Sell	Character	<ul style="list-style-type: none"> <li>• Either 'B' or 'S'</li> <li>• Case insensitive</li> <li>• Short selling trades should use 'S' – Sell</li> </ul> <p>Values:</p> <ul style="list-style-type: none"> <li>• 'B' – Buy</li> <li>• 'S' – Sell</li> </ul>
8	Trade Type	Character	<p>&lt;Exchange Trade Type&gt; provided in the Execution Report of the matched trade in OTP-C.</p> <ul style="list-style-type: none"> <li>• Either 'A','M','S','E','O','Q','P','R','V' or 'U'</li> <li>• Case insensitive</li> </ul> <p>Values:</p> <ul style="list-style-type: none"> <li>• 'A' - Automatched</li> <li>• 'U' - Auction-matched</li> <li>• 'M' - Manual Trade</li> </ul>

#	Field	Format	Remark
			<ul style="list-style-type: none"> <li>• 'S' - Manual – Non Standard Price Trade</li> <li>• 'Q' - Special Lot Trade</li> <li>• 'P' - Odd Lot Trade</li> <li>• 'R' - Previous Day's Trade</li> <li>• 'V' - Overseas Trade</li> <li>• 'E' - Special Lot – Semi Automatic Matching</li> <li>• 'O' - Odd Lot – Semi Automatic Matching</li> </ul>
9	Price	Decimal	<ul style="list-style-type: none"> <li>• Maximum 3 decimal places</li> <li>• Without comma</li> </ul>
10	Quantity	Numeric	<ul style="list-style-type: none"> <li>• Integer</li> <li>• Without comma</li> </ul>
11	Transaction Value	Decimal	<ul style="list-style-type: none"> <li>• Maximum 3 decimal places</li> <li>• Without comma</li> </ul>
12	Stamp Duty Amount (in HKD)	Decimal	<ul style="list-style-type: none"> <li>• Maximum 2 decimal places</li> <li>• Without comma</li> <li>• Equal to "Transaction Value (in Local Currency) * stamp duty rate* FX rate"</li> </ul>
13	Trade Reference Group	Numeric	<ul style="list-style-type: none"> <li>• Trade Match ID provided in the Execution Report of the matched trade in OTP-C. This is an identifier assigned by the trading system, which is used to uniquely identify a trade.</li> </ul>
14	DCMM Activity Indicator	Character	<ul style="list-style-type: none"> <li>• Either 'A', 'H', 'M' or 'N'</li> <li>• Case insensitive</li> </ul> <p>Values:</p> <ul style="list-style-type: none"> <li>• 'A' – arbitrage</li> <li>• 'H' – hedge</li> <li>• 'M' – market making</li> <li>• 'N' – non-eligible DCMM transaction for stamp duty exemption</li> </ul> <p><b><i>Transactions for DCMM Activity must be carried out in Automated, either as "A" &amp; "U" type. All other types listed below must be tagged with "N" in the Field #14 DCMM Activity Indicator.</i></b></p>

Provide checksum in the last line of file, with following format:

#	Field	Format	Remark
1	Total Transaction Value	Decimal	The Total Transaction Value is the summation of Transaction Values of all record in the activity form.
2	Total Stamp Duty Value	Decimal	The Total Stamp Duty Value is the summation of Stamp Duty Values of all record above in the activity form.

**B.1 Sample of DCMM Activity Form file**

Filename: DCMMAF\_01234\_20230717.CSV

1	20230717	092002	1234	8530	6666	B	U	49.9	500	24950	32.44	6666000000696	M
2	20230717	092002	1234	8531	7777	S	U	49.9	500	24950	32.44	7777000000687	M
3	20230717	112417	1234	8532	8888	B	A	56.4	400	22560	29.33	8888000004575	A
4	20230717	112241	1234	8535	5555	S	A	6.452	123	793.596	1.04	5555000004471	H
5	20230717	112241	1234	8538	4444	S	A	50	100	5000	6.5	4444000002262	N
78253.596	101.75												



## C DCMM Activity Form Result File

The DCMM Activity Form Response File returns validation result of DCMM Activity Form. It contains records that fail the validation.

### C.1 DCMM Activity Form Result File layout

File format:

Field No.	Field Name	Description
1	Item No.	The item number within the file
2	Result Code	The validation result code
3	Result Text	Corresponding validation result text

Result code and text:

Result Code	File / Record Level	Result Text
F1001	File	Submitted file is corrupted.
F1002	File	Invalid (csv) file name.
F1003	File	Invalid file layout.
F1004	File	Trade date is no longer within the valid reporting period.
F1005	File	Total Transaction Value in checksum row does not match to the sum of Transaction Values of all records.
F1006	File	Total Stamp Duty Amount in checksum row does not match to the sum of Stamp Duty Amount of all records.
F1007	File	Item No. not in sequence.
F1020	File	Outside submission window.
R1008	Record	Data record error: Invalid trade date.
R1009	Record	Data record error: Firm ID does not hold valid DCMM permit on the trade date.
R1010	Record	Data record error: Broker Number does not hold valid DCMM permit on the trade date.
R1012	Record	Data record error: Specified Trade Reference Group cannot be found in HKEX record.
R1013	Record	Data record error: Corresponding trade is a cancelled trade.
R1014	Record	Data record error: Invalid data format (Field Name#).
R1015	Record	Data record error: (Field Name#) data value does not match the HKEX record.

Result Code	File / Record Level	Result Text
R1016	Record	Another data record of the same Trade Reference Group and Side does not pass the validation.
R1017	Record	The sum of Quantity for records of the same Trade Reference Group and Side is different to HKEX record.
R1018	Record	The sum of Transaction Value for records of the same Trade Reference Group and Side is different to HKEX record.
F0101	File	All records are validated successfully.
F0102	File	General system error. Contact HKEX.

# Field Name that fails the validation. If there are more than one failure fields, only the first field is returned.

## D DCMM Trade Volume Summary Report

DCMM Trade Volume Summary Report is generated by HKEX, which acts as a reference report for each DCMM and DS to compare its own traded quantities of RMB counter and the corresponding HKD counter.

### D.1 DCMM Trade Volume Summary Report filename convention

The filename convention of the interface file is as follows:

DCMMTVSR\_M<NNNNN>SD\_YYYYMMDD.ZIP for DCMM  
DCMMTVSR\_D<NNNNN>DS\_YYYYMMDD.ZIP for DS

Contains

DCMMTVSR\_M<NNNNN>SD\_YYYYMMDD.CSV for DCMM  
DCMMTVSR\_D<NNNNN>DS\_YYYYMMDD.CSV for DS

Where:

NNNNN: Broker Firm ID (right-aligned padded with zero (0)) for DCMM  
DS Firm Code for DS  
YYYYMMDD: Trade Date

There will only be 1 DCMM Trade Volume Summary Report per DCMM/DS per trading day.

### D.2 DCMM Trade Volume Summary Report distribution time

Time	Party	Activity
By 2:00pm on T+1 Day	HKEX	Distribution of DCMM Trade Volume Summary Report (DCMMTVSR_*_YYYYMMDD.ZIP).

### D.3 File collection and distribution channel

DCMMs/DSs can download DCMM Trade Volume Summary Report on T+1 of Hong Kong Securities Market through ECP.

#### Collection through ECP

Collection Path (SFTP)	/download/DCMMTVSR
Collection Page (Web Interface)	Download Corner of ECP Web Interface - “ DCMM Trade Volume Summary Report”

### D.4 DCMM Trade Volume Summary Report File layout

The report file is in csv format, delimited by comma, without any blank lines.

File format:

Field No.	Field Name	Description
1	Trade Date	The trading date
2	Firm ID	The DCMM firm ID
3	DS Broker ID(s)	“NA” for DCMM, or the DS Broker ID(s)
4	RMB Counter Stock Code	The stock code in RMB counter
5	Total RMB Buy Traded Volume	The total traded volume in RMB counter on Buy side
6	Total RMB Sell Traded Volume	The total traded volume in RMB counter on Sell side
7	Total HKD Buy Traded Volume	The total traded volume in HKD counter on Buy side
8	Total HKD Sell Traded Volume	The total traded volume in HKD counter on Sell side
9	Result Code	The trade volume checking result code
10	Result Text	The corresponding result text

Result code and text:

Result Code	Result Text
R1001	HKD counter traded volume exceeds the opposite side of RMB counter.
R1002	HKD counter traded volume is in line with the opposite side of RMB counter.

## D.5 Sample of DCMM Trade Volume Summary Report file

For DCMM,

Filename: DCMMTVSR\_M01234SD\_20230316.CSV

Trade Date	Firm ID	DS Broker ID(s)	RMB Counter Stock Code	Total RMB Buy Traded Volume	Total RMB Sell Traded Volume	Total HKD Buy Traded Volume	Total HKD Sell Traded Volume	Result Code	Result Text
20230316	1234	NA	84244	16000	8000	14000	6000	R1001	HKD counter traded volume exceeds the opposite side of RMB counter.
20230316	1234	NA	84246	2000	2000	0	0	R1002	HKD counter traded volume is in line with the opposite side of RMB counter.
20230316	1234	4123	84245	16000	8000	14000	6000	R1001	HKD counter traded volume exceeds the opposite side of RMB counter.
20230316	1234	4124 4125	84245	2000	2000	0	0	R1002	HKD counter traded volume is in line with the opposite side of RMB counter.

For DS,

Filename: DCMMTVSR\_DASDFGDS\_20230316.CSV

Trade Date	Firm ID	DS Broker ID(s)	RMB Counter Stock Code	Total RMB Buy Traded Volume	Total RMB Sell Traded Volume	Total HKD Buy Traded Volume	Total HKD Sell Traded Volume	Result Code	Result Text
20230316	1234	4123	84245	16000	8000	14000	6000	R1001	HKD counter traded volume exceeds the opposite side of RMB counter.

Filename: DCMMTVSR\_DQWERTDS\_20230316.CSV

Trade Date	Firm ID	DS Broker ID(s)	RMB Counter Stock Code	Total RMB Buy Traded Volume	Total RMB Sell Traded Volume	Total HKD Buy Traded Volume	Total HKD Sell Traded Volume	Result Code	Result Text
20230316	1234	4124 4125	84245	2000	2000	0	0	R1002	HKD counter traded volume is in line with the opposite side of RMB counter.

## E Appendix I

### E.1 Acknowledgment File

#### E.1.1 Description

The Acknowledgment File is applicable to ECP (SFTP) Interface submission only. It contains a SHA-256 checksum of the submitted file to compromise the file integrity. It acknowledged the submitted file is received by HKEX and is accepted to further process.

For example, DCMM Activity Form file uploaded and accepted by the system will be removed from the submission folder of the SFTP user account, and an Acknowledgment File “<Original-filename>.<HHMMSS>.rcvd”, e.g. DCMMAF\_XXX123\_20210401.zip.093000.rcvd will be generated in the submission folder. When there appears an Acknowledgment File of duplicate file name, e.g. multiple files of same file name are received by HKEX at the same time and accepted, a file running sequence number will be assigned to the Acknowledgment File “<Original-filename>.<HHMMSS>.<FILESEQ>.rcvd”,

e.g. DCMMAF\_XXX123\_20210401.zip.093000.1.rcvd

If the file is submitted via ECP Web Interface, the checksum detail will be displayed at the submission page or can be enquired from the Activity Enquiry page.

#### E.1.2 File Layout

##### Summary

<b>File Extension</b>	.rcvd
<b>File Name</b>	<p>&lt;Original-filename&gt;.&lt;HHMMSS&gt;[.FILESEQ].rcvd</p> <p><i>where:</i></p> <p>[.FILESEQ] = File running sequence exists only when appears duplication of file name</p> <p>Example:</p> <p>When three files of same file name are uploaded at 09:30:00 and are accepted</p> <p>1<sup>st</sup> file: &lt;Original-filename&gt;.093000.rcvd</p> <p>2<sup>nd</sup> file: &lt;Original-filename&gt;.093000.1.rcvd</p> <p>3<sup>rd</sup> file: &lt;Original-filename&gt;.093000.2.rcvd</p>
<b>File Type</b>	Text file delimited by DOS newline characters (CR+LF). Record data fields are in fixed length.

	ASCII encoded.
<b>Distribution Time</b>	Within 5 minutes after submitting File.
<b>Distribution Path (ECP (SFTP) Interface only)</b>	At the submission folder of submitted file
<b>Distribution Page (ECP Web Interface only)</b>	Not Applicable

#### Data Record

Field No.	Data	Format	Synopsis
1	SHA-256 checksum	X(66)	SHA-256 checksum of submission file
2	File name	X(255)	Submission file name

## E.2 Rejection File

### E.2.1 Description

The Rejection File is applicable to ECP (SFTP) Interface submission only. It acknowledged the submission file is received by HKEX and is rejected. For a file with multiple errors, only the first error detected will be included and submitter should review the whole file again.

For example, DCMM Activity Form File. DCMM Activity Form files rejected by the system will be removed from the submission folder of the SFTP user account, and a Rejection File "<Original-filename>.<HHMMSS>.rej",

e.g. DCMMAF\_02222\_20210401.zip.093000.rej will be generated at the submission folder. When there appears a Rejection File of duplicate file name, e.g. multiple files of same file name are submitted to HKEX at the same time and are rejected, a file running sequence number will be assigned to the Rejection File "<Original-filename>.<HHMMSS>.<FILESEQ>.rej", e.g. DCMMAF\_02222\_20210401.zip.093000.1.rej.

A submitted file will be rejected for example:

- File name of submitted file is not specified correctly: e.g. DCMM Activity Form File DCMMAF\_02222\_20210401.zip is in wrong format (see section A.1 for correct file name format); or
- Date in the file name is invalid or past-/post-dated; or
- The file submission is made beyond submission hour.

Please refer to Appendix A.3 for full list of Rejection Code.

If the file is submitted via ECP Web Interface, the rejection code and reason will be displayed at submission page or can be enquired from the Activity Enquiry page.

No Result File will be given when the submitted file is rejected.

## E.2.2 File Layout

### Summary

<b>File Extension</b>	.rej
<b>File Name</b>	<Original-filename>.<HHMMSS>[.FILESEQ].rej <i>where:</i> [.FILESEQ] = File running sequence exists only when appears duplication of file name  Example: When three files of same file name are uploaded at 09:30:00 and are rejected 1 <sup>st</sup> file: <Original-filename>.093000.rej 2 <sup>nd</sup> file: <Original-filename>.093000.1.rej 3 <sup>rd</sup> file: <Original-filename>.093000.2.rej
<b>File Type</b>	Text file delimited by DOS newline characters (CR+LF). Record data fields are in fixed length. ASCII encoded.
<b>Distribution Time</b>	Within 5 minutes after submitting File.
<b>Distribution Path (ECP (SFTP) Interface only)</b>	At submission folder of submitted file
<b>Distribution Page (ECP Web Interface only)</b>	Not Applicable

### Data Record

Field No.	Data	Format	Synopsis
1	Rejection Code	X(5)	Refer to Appendix A.3
2	Rejection Reason	X(255)	Refer to Appendix A.3



### E.3 Rejection Codes used when submitted file is rejected

Rejection Code	Synopsis
2007	Fail to decrypt uploaded file
4003	Rejected by virus scan
4004	Exceed file size limit
4005	Zero file size
4006	File name too long
4007	File name contains invalid characters
4008	File Submission without client consensus is not accepted
4505	Invalid file name
4506	Invalid file name extension
4507	Beyond submission hour